

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA
MIAMI DIVISION
Case 01-4319-CIV-KING

SYLVIA ALLEN,

Plaintiff,

vs.

MIAMI, FLORIDA

R.J REYNOLDS TOBACCO COMPANY,

FEBRUARY 19, 2003

and PHILIP MORRIS INCORPORATED,

WEDNESDAY - 1:30 P.M..

Defendants.

AFTERNOON SESSION

TRANSCRIPT OF JURY TRIAL PROCEEDINGS
BEFORE THE HONORABLE JAMES LAWRENCE KING,
UNITED STATES DISTRICT JUDGE
VOLUME 1B

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1 AFTERNOON SESSION

2 THE COURT: Bring in the jury, please.

3 [The jury returns to the courtroom.]

4 THE COURT: Mr. Yaffa.

5 BY MR. YAFFA:

6 Q. Doctor Ford, before lunch you and I were talking about
7 these internal documents. Do you recall that?

8 A. Yes, I do.

9 Q. The truth of the matter is that I could ask you questions
10 about these internal documents until the cows came home, and
11 you would not be able to give the jury any information because
12 you did not research any of these internal documents, correct?

13 A. Unless these internal documents somehow came into the
14 public domain in the time period I studied, that would be
15 correct, yes. In my research I was looking for publicity
16 information that came in to the public domain, not that was
17 held privately by any entity.

18 Q. RIGHT. In regard to all these internal documents, has RJR
19 given you any of these documents?

20 A. No, they have not.

21 Q. Has Philip Morris given you any of those documents?

22 A. To the best of my recollection they have not.

23 Q. Do you understand that there is a public web site out there
24 with about thirty-three million documents on it that is
25 available to you in your work as a historian to see what's out

6

1 there and available; do you understand that?

2 MR. CESARANO: Objection, redundant.

3 THE COURT: Overruled.

4 THE WITNESS: I think that I explained that to you
5 earlier that those documents are on the web site now. They are
6 not documents that came into the public domain in the earlier
7 time period, which was the time period I was researching. I
8 was interested in materials that was publicity that reached the
9 public. Unless they reached the public in my time period,
10 sometimes documents published by the companies did reach the
11 public, then no, I did not consider those in my research.

12 BY MR. YAFFA:

13 Q. As you sit here today, do you understand there are many,
14 many documents on this public web site that did in fact reach
15 the public?

16 A. Well, that reached the public when that web site was
17 created.

18 Q. No, I am talking about were actually publicized, publishing
19 magazines, newspaper articles, things like the Frank Statement.
20 This was on there. You didn't talk to the jury at all about
21 that? That's just an example, correct?

22 A. The Frank Statement was certainly published in newspapers
23 that I reviewed. I wasn't able to present to the jury
24 everything that I found in the short presentation I had
25 yesterday. This was certainly information that was in the

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1 newspapers. If it came into the public domain during the time
2 period that I researched, I made efforts to find it and to
3 consider it. This was certainly one of the things that I
4 reviewed.

5 Q. What about this. Did you consider this, Exhibit 439 in

6 evidence. Can you tell the jury how many magazines this
7 appeared in and for how many years?
8 A. Could you show me the document, please?
9 Q. Sure.
10 A. This is an advertisement which I do recall seeing in I
11 guess primarily magazines that I looked at. It appeared on a
12 number of occasions in the late 1940s and early 1950s to the
13 best of my recollection.
14 Q. Can you tell the jury how many millions of people were
15 exposed to this?
16 A. I wouldn't be able to answer that question with any
17 quantitative specificity. I would say that this was an
18 advertisement that was run primarily in magazines and perhaps
19 occasionally in newspapers in the time period that I discussed.
20 Q. Tell the jury about how many hundreds of ads that Philip
21 Morris and R.J. Reynolds ran promoting their product.
22 A. Once again, what I could say is that cigarettes were a
23 product that was advertised. Each company advertised their
24 brands as did other manufacturers of consumer products at that
25 time. Certainly, since those ads were in the things I was

8

1 reviewing, I certainly saw those and reviewed those in the
2 context of the other information that I looked at.
3 Q. Did you show the jury any single ad during your direct
4 exam?
5 A. I don't believe we did, no.
6 Q. Did you show the jury any single promotional material that
7 was put out by Philip Morris?
8 A. Could you define promotional material?
9 Q. Did you show this jury one single ad put out by Philip
10 Morris promoting their product?
11 A. I think I've already said that we did not show any ads
12 during our direct, even though they were among the material
13 that I reviewed very clearly.
14 Q. Did you show the jury any public statement put out by
15 Philip Morris?
16 A. Again, to the extent that many of these public statements
17 were in documents that are exhibits that we put on that would
18 go to the jury, but I didn't perhaps blow them out, end quote,
19 yesterday, if that's what you're asking; but they are certainly
20 in the materials that are available for the jury to look at.
21 Q. This is Exhibit 727. Can you tell the jury how many papers
22 and how many newspapers this appeared in?
23 A. Can I see the document again, please? I don't recognize
24 that particular document.
25 Q. You are not telling the jury this wasn't published to

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1 millions of Americans, are you?
2 A. I am not saying that. I am saying that I did not recognize
3 it. I could tell by glancing through the document then, it was
4 a document published sometime prior to 1996. 1986, excuse me.
5 The focus of my research was in an earlier period through the
6 late 1980s and early 1990s. Over ninety percent of Americans
7 believed that cigarette smoking caused lung cancer. I'm trying
8 to explain why our research is focused on earlier periods.
9 Q. I only want to know whether or not you knew about this and
10 whether or not you showed this jury anything that Philip Morris
11 put out in the frame of a public statement such as this?
12 A. As I say, I do not recall seeing this document. Certainly,
13 we did not include it in our direct exam yesterday, if that's
14 what you're asking.
15 MR. YAFFA: Your Honor, I would move to strike the
16 last portion of his last answer.

17 THE COURT: Overruled. Let the jury decide and sort
18 all of this out.
19 BY MR. YAFFA:
20 Q. The statement put up by Philip Morris indicates that
21 smokers and nonsmokers deserve to know the facts; is that
22 right?
23 A. Yes.
24 Q. Philip Morris said that they do not manipulate nicotine
25 levels; is that right?

10

1 MR. CESARANO: Your Honor, I object. He said he has
2 not seen this, he is not familiar with it, and he does not
3 recognize this document.
4 THE COURT: Sustained.
5 BY MR. YAFFA:
6 Q. Have you seen any document published to the American public
7 where Philip Morris has acknowledged and admitted that they
8 manipulate nicotine levels?
9 A. I have seen many articles discussing nicotine levels in
10 cigarettes. I don't recall in any of them there was an
11 acknowledge of that sort from Philip Morris, and these are the
12 ones that I have seen.
13 Q. Have you seen any public statement by R.J. Reynolds where
14 they have admitted in a publication that they manipulate the
15 nicotine levels?
16 A. Once again, the same answer would apply in a number of
17 articles that I --
18 THE COURT: Doctor, you have to answer the question
19 first. Then you can explain it. You have to answer it first.
20 Have you seen any such document as he referred to?
21 THE WITNESS: No, I do not recall seeing a document
22 discussing levels of nicotine published by R.J. Reynolds
23 company. Although many of the articles that I have reviewed
24 and showed the jury discussed different levels of nicotine. I
25 wouldn't necessarily call the phrase manipulation of different

11

1 levels of nicotine. But no to the question of have I seen that
2 coming from R.J. Reynolds. The answer would be no.
3 BY MR. YAFFA:
4 Q. I want to talk to you about the issue of addiction; do you
5 understand that? Do you understand that's what I want to talk
6 to you about?
7 THE COURT: Just ask the question, please, and if he
8 can't understand it, then you can --
9 BY MR. YAFFA:
10 Q. This document states that Philip Morris does not believe
11 cigarette smoking is addictive. My question to you is, have
12 you seen any publication at all prior to October of 2000 when
13 Philip Morris changed his web site where Philip Morris admitted
14 to the American public that smoking is, in fact, addictive?
15 A. With the understanding that I am not trying to give a
16 medical answer, referring to addiction, and simply using the
17 term addictive as I used it in my direct exam yesterday, I have
18 seen many references to that. I don't recall a statement by
19 Philip Morris to that effect.
20 Q. Same question in regard to R.J. Reynolds. Has R.J.
21 Reynolds ever come forward and admitted publically in a
22 publication that their product is addictive?
23 A. Ever is a broad statement. Certainly, the time period that
24 I focused my research on, I don't recall seeing such a
25 statement from R.J. Reynolds.

12

1 Q. Can you tell the jury whether or not you saw any

2 publication from R.J. Reynolds where they admitted
3 statistically, biologically and pathologically that internally
4 they have proven that cigarettes cause cancer?
5 A. My recollection is that in the news coverage of the 1994
6 testimony of executives from R.J. Reynolds, that they did say
7 that -- accept the fact that smoking was a risk factor
8 according to the statistics. That is my recollection from
9 coverage, I believe, in the New York Times and The Washington
10 Post.
11 Q. My question was a little different than that. Did you ever
12 see R.J. Reynolds ever publically admit that statistically,
13 pathologically and biologically they have proven that
14 cigarettes cause cancer?
15 A. Again, I would have to say that I don't recall a statement
16 referring pathologically and biologically. I do recall that
17 statement about statistical risk factor.
18 Q. Let me show you what is in evidence as Exhibit Number 99.
19 Have you seen that before?
20 A. Can I look at the whole document, please?
21 Q. Have you seen that before?
22 A. Having reviewed this document, I do believe that I have
23 seen this document before as a paid advertisement run in
24 newspapers either in the early 1990s or very late 1970s. I
25 can't place it more precisely than that off the top of my head.

13

1 Q. Can you give the jury a sense as to how many newspapers and
2 magazines this ran?
3 MR. CESARANO: Your Honor, I would object. It's
4 beyond the time limitation of the witness's research which
5 ended in 1969.
6 THE COURT: Did you do any research beyond 1969?
7 THE WITNESS: I did do some research past 1969. It
8 was not as exhaustive as my pre-1969 research.
9 THE COURT: Did your research that you did beyond 1969
10 cover the time frame of this document, whatever it is?
11 THE WITNESS: I did see this document, yes.
12 THE COURT: Overruled. You may answer the question.
13 BY MR. YAFFA:
14 Q. Please tell the jury how many different magazines and how
15 many different newspapers this article ran?
16 A. I don't have that information. As I said, I did see it in
17 the newspapers I researched. I did not see it in all the
18 newspapers that I researched. That would be about the best
19 answer I could give you on that.
20 Q. Can you tell this jury whether or not you have ever seen
21 R.J. Reynolds publish that they have been able to isolate
22 components in cigarette smoke that cause cancer?
23 MR. CESARANO: Your Honor, I object. He just
24 testified he has seen this document, and now counsel is doing
25 nothing but reading it to the jury.

14

1 MR. YAFFA: That's not what I did.
2 THE COURT: He said he was familiar with this
3 document. That's why I overruled your objection and let him
4 answer the question.
5 Doctor, do you understand the last question, and can
6 you answer it?
7 THE WITNESS: I would like for it to be repeated.
8 BY MR. YAFFA:
9 Q. Sure. Tell the jury whether or not you have ever seen a
10 publication by R.J. Reynolds that was made to the public where
11 they identify ingredient or ingredients in cigarette smoke
12 which they have identified that caused cancer.

13 A. I have not seen that statement published by the R.J.
14 Reynolds Company. I have seen other magazines and articles
15 which discuss compounds that have been so identified.
16 Q. Sure. But in this article, in this publication by R.J.
17 Reynolds, they specifically tell anybody that's reading this
18 that in over a quarter of a century they have never been able
19 to identify an ingredient or group of ingredients as found in
20 cigarette smoke that cause cancer, correct?
21 MR. CESARANO: I object to counsel's speech and
22 reading the document to the jury, Your Honor.
23 THE COURT: Overruled. This is cross-examination.
24 Answer the question.
25 THE WITNESS: I think you read that correctly, yes.

15

1 BY MR. YAFFA:
2 Q. This is published based on what you found?
3 A. As I said, my recollection on the precise date is not
4 clear. I believe it was the late 1970s or early 1980s.
5 Sometime in that time frame.
6 Q. Late 70s early 80s, yet you told this jury based upon what
7 you saw that ingredients were identified in cigarette smoke
8 going back how far?
9 A. You realize that I am answering this without being able to
10 say that these statements are accurate from scientific
11 standpoint. I am just saying that they're being reported.
12 Q. Just asking you what's out there?
13 A. Reader's Digest and other sources were discussing possible
14 cancer causing entities, compounds in cigarette smoke back in
15 the 1950s, as I think I suggested yesterday.
16 Q. Okay. Here in the 1970s or 80s, they are saying otherwise?
17 MR. CESARANO: Objection, argumentative, Your Honor.
18 THE COURT: Sustained. Next question.
19 BY MR. YAFFA:
20 Q. This is Exhibit Number 98. Have you seen that document?
21 It's in evidence.
22 A. Yes, I have seen that document. Again, it was I believe a
23 paid advertisement that ran in magazines and some newspapers.
24 Again, my recollection on the precise time frame on these is a
25 little bit unclear, but I think the same time period I referred

16

1 to the previous document.
2 Q. Again, in terms of the number of papers and magazines and
3 the numbers of people that actually saw this, can you give the
4 jury a sense of that information?
5 A. I wouldn't give you an exact number. To be able to give
6 you an exact number on that, I'd say it clearly was published
7 in some of the papers that I reviewed and clearly not published
8 in others.
9 Q. Let me show you what is in evidence as Exhibit 78 and ask
10 if you have seen that. Have you seen that before?
11 A. Yes, I have.
12 MR. CESARANO: Your Honor, I object. Preemption.
13 THE COURT: The question is whether or not he has read
14 or seen a document in his research. That is proper
15 cross-examination. You may answer the question as to whether
16 or not you have seen and read the document. Overruled.
17 BY MR. YAFFA:
18 Q. This is a document that was published ten years --
19 THE COURT: Could you answer the question first and
20 then explain it, please?
21 THE WITNESS: Yes, I do believe this is the document
22 that I have seen. It's my recollection that that too was a
23 paid advertisement. I don't recall it receiving a wide

24 circulation, but I have seen it.

25 BY MR. YAFFA:

17

1 Q. Are you able to tell this jury anything about the
2 circulation?

3 A. Simply that I don't recall finding it very frequently in
4 the newspapers and magazines that I searched. I wouldn't want
5 to try to be anymore precise than that.

6 Q. It's put out by the Tobacco Institute, correct?

7 A. Yes, that's correct.

8 Q. Specifically, in this document, the Tobacco Institute tells
9 the public that no scientist anywhere has identified any
10 substance as found in cigarette smoke that causes diseases in
11 humans, correct?

12 MR. CESARANO: Objection, preemption, Your Honor.

13 THE COURT: This man is going to be able to give
14 testimony concerning his research. That is what we are talking
15 about here. Overruled. You may answer the question.

16 The jury will only consider with reference to the
17 research you've done. You are trying to evaluate what research
18 you did, how extensive it was, what he did, and what he found.
19 That's how he identified the documents, which you all will see
20 at the end of the case that are in evidence.

21 Would you repeat the question for him?

22 MR. YAFFA: Sure.

23 BY MR. YAFFA:

24 Q. This document, does it represent to the public that no
25 scientist anywhere has identified any substance as found in

18

1 cigarette smoke that causes diseases in humans?

2 A. I believe you read that correctly, yes.

3 Q. Can you tell this jury whether R.J. Reynolds, Philip Morris
4 or the Tobacco Institute to the best of your knowledge ever
5 publically took the position that they have identified
6 substances in cigarette smoke that cause disease in humans?

7 A. Certainly during the time period that I did my research in,
8 I don't recall seeing such a statement to that effect from
9 those sources.

10 Q. Yesterday you spent some time talking to us about the
11 Gallup Polls. Do you recall that?

12 A. Yes.

13 Q. I want to put up exactly what you showed to the jury, and I
14 want to talk a little bit about it.

15 This is obviously a hard copy of the slide that you
16 had in electronic form. Do you recall seeing this?

17 A. Yes, I believe that was one of the demonstratives that we
18 used in my direct exam.

19 Q. Specifically the question that you talked about with this
20 jury in regard to this Gallup Poll that took place from June 12
21 to June 17, 1954 was, have you heard or have you read anything
22 recently to the effect that cigarette smoking may be a cause of
23 cancer of the lung, correct?

24 A. That's correct.

25 Q. Then you went on and you showed the jury this graph; is

19

1 that right?

2 A. Yes, that is the graph showing that ninety percent of
3 people in this poll said yes, they have read or heard something
4 about smoking as a cause of lung cancer.

5 Q. The question was that ninety percent of these people heard
6 or read something to the effect that cigarette may be a cause
7 of lung cancer. Not that it is, but it may be, correct?

8 A. Yes, I believe that was exactly the question that was

9 posed.

10 Q. Yesterday when you were talking about this 1954 Gallup Poll
11 there was some more information available that you did not tell
12 this jury about, correct?

13 A. I think I made a pretty exhaustive review of Gallup Polls
14 in my analysis. We can only show a limited number, obviously,
15 to the jury, but I certainly have reviewed a larger number. I
16 am trying to think there were maybe some other polls in that
17 same issue or near that time, certainly.

18 Q. What I want to talk about is this June, 1954 poll, and
19 specifically what you told the jury and what you didn't tell
20 the jury. Here is the exact question that we just read.

21 June, 1954, the top question, have you heard or read
22 anything recently to the effect that smoking may be a cause of
23 cancer of the lung? Ninety percent. That's what you told the
24 jury about.

25 A. That's correct.

20

1 Q. The next question you did not tell the jury about, and that
2 is, what is your own opinion. Do you think that cigarette
3 smoking is one of the causes of lung cancer or not? Only
4 forty-one percent of people said that they thought cigarette
5 smoking caused lung cancer; is that right?

6 A. Yes, I believe the answer to that question was, when asked
7 -- not whether they had read or heard, but whether they
8 themselves believed that smoking was a cause of lung cancer --
9 forty-one percent said that they believed that it was,
10 approximately thirty percent said they did not believe, and the
11 rest said they had no opinion or were undecided.

12 Q. Right. Thirty-one percent said no, they did not believe
13 that smoking caused lung cancer, correct?

14 A. That's my recollection.

15 Q. Twenty-nine percent said they were unsure, correct?

16 A. I think in the actual poll it says they gave no opinion.

17 Q. Well, if you take all of the numbers that are available to
18 you in evaluating this, the majority of people responding to
19 this poll in 1954 did not believe that smoking caused lung
20 cancer, correct?

21 A. Forty-one percent believed that would be less than a
22 majority in 1954. More people believed than did not believe,
23 and a number had no opinion or were undecided.

24 Q. You did not tell the jury about that, did you?

25 A. I did not in my direct yesterday. Although it's certainly

21

1 one that I reviewed in my study.

2 Q. There are other polls out there available for you to review
3 as a historian, correct?

4 A. Yes.

5 Q. You mentioned other Gallup Polls; did you not?

6 A. Gallup Polls and polls by other organizations, that's
7 correct.

8 Q. I want to ask you whether or not you have been provided by
9 counsel for Philip Morris or counsel from R.J. Reynolds with
10 Exhibit Number 10001 which is a Gallup Poll that was done in
11 1972 and '73.

12 Based on what I have shown you thus far, have you seen
13 this before?

14 A. Yes, I have seen it. I asked in this case, as I often do,
15 if there had been any evidence related to my testimony put in
16 by plaintiff's counsel. I was, in fact, shown this one thing,
17 so I have seen it.

18 I had not seen it prior to this trial being under way.

19 Q. As you sit here right now, do you understand that this came

20 from Philip Morris's confidential web site where there is an
21 additional two hundred fifty thousand documents available?
22 MR. REILLY: Your Honor, I object. To characterize it
23 as confidential, we all know why it's confidential. It's
24 unfair.

25 THE COURT: The question has to do with the extent of

22

1 his research. You are suggesting there is another area. The
2 jury will disregard numbers. You can ask him if there is
3 another area that he did not research, if that's the thrust of
4 your question. You may ask that question.

5 BY MR. YAFFA:

6 Q. Have you been advised prior to sitting down here today,
7 that there is an additional body of documents that you have not
8 been provided access to?

9 A. Again, I guess I would say that I'm aware there are web
10 sites out there with available information on them which, for
11 reasons I have already tried to outline to the Court and to the
12 jury, I didn't think were appropriate for my research. I don't
13 know that anybody has made any presentation to me other than
14 that.

15 Q. A Gallup Poll done in 1972 and '73 to determine people's
16 awareness of the Surgeon General's warning would certainly be
17 something that would be of interest to you in looking at the
18 issues that you testified here to, correct?

19 A. Can I see the document, please?

20 Q. Sure. As I am walking over to you, tell the jury, before
21 this case, have you ever seen this before?

22 A. I think I have already said that I have not.

23 I think the answer to your question is that in doing
24 my research for this case, I looked at publically available
25 polling data. I found a poll done by the United States

23

1 Government in 1966 which showed that over ninety percent of
2 all --

3 MR. GROSSMAN: Excuse us, can he just answer the
4 question?

5 THE COURT: Just a moment. Mr. Yaffa will have to
6 make whatever --

7 MR. YAFFA: Your Honor, he is not responding to the
8 question. It was have you seen this before?

9 THE COURT: Let me read the question. The question is
10 have you seen this before. That's a yes or no. Would you
11 please answer.

12 THE WITNESS: I think I indicated that I have seen it
13 before, but I haven't seen it since this trial.

14 THE COURT: He says yes, he's seen it. Ask any other
15 questions.

16 BY MR. YAFFA:

17 Q. When did you first see it?

18 A. I believe on Friday or Saturday of last week.

19 Q. Friday or Saturday of last week?

20 A. Correct.

21 Q. Were you advised by counsel for Philip Morris or R.J.
22 Reynolds as to how many other Gallup Polls they have done over
23 the years on the public's awareness of the Surgeon General's
24 warning?

25 A. No, I have not. The reason that I asked to see any

24

1 exhibits that might relate directly to the subject matter of my
2 testimony, that's something I have done before when I have
3 testified. That was a document that was shown to me, there
4 wasn't any elaboration of it.

5 I can't tell from looking at that document what it is,
6 really. There is no question asked. There's no methodology.
7 BY MR. YAFFA:
8 Q. Let me help you with that. Let me give you a question.
9 The question point blank is, when you saw this for the first
10 time, never having seen it before in all these other trials,
11 never having seen it before in all the other documents you've
12 reviewed, did you ask them are there anymore, is there any back
13 up information? Did you ask them for any of that information?
14 MR. REILLY: Your Honor, I object.
15 THE COURT: Sustained. Rephrase the question.
16 MR. REILLY: And I would object because he cut off the
17 witness before the witness was able to finish his last answer.
18 That's all I ask, that he be permitted to finish his last
19 answer.
20 THE COURT: The objection by defense is overruled. He
21 had fully answered the question and was starting to go into it
22 further. You may inquire on redirect of him if he has
23 something further there that you think he did not complete. It
24 looks like the answer was completed or pretty much complete.
25 So I will leave it up to redirect.

25

1 BY MR. YAFFA:
2 In regard to this document that you just told us you
3 saw last week for the first time --
4 A. That's correct.
5 Q. Did you ask counsel -- who gave it to you, was it Philip
6 Morris' lawyers or R.J. Reynolds?
7 A. I believe it was Mr. Reid.
8 Q. When Mr. Reid gave it to you for the first time last
9 week --
10 A. Or Mr. Cesarano, excuse me.
11 Q. Or Mr. Cesarano, when they gave it to you for the first
12 time last week, did you ask them are there anymore of these
13 that I can look at?
14 A. I asked is there anything else in evidence relating to
15 this, and they said no. I asked is the rest of what appears to
16 be this poll describing the methodology, even given the
17 questions asked, available. They said no, that it had not been
18 introduced. If plaintiffs have it, it has not been introduced.
19 Q. If plaintiffs have it, did they tell you that they have not
20 provided it?
21 MR. CESARANO: Objection,
22 MR. REILLY: Objection, Your Honor.
23 THE COURT: Sustained. Rephrase the question.
24 BY MR. YAFFA:
25 Q. Were you given any information that was available to

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1 anybody that wanted to see it?
2 A. The information that is in the documents you have is really
3 all the information that I have.
4 Q. Did you ask for it? Did you ask Mr. Cesarano to get you a
5 copy of it?
6 A. Well --
7 Q. Did you ask for it?
8 A. I didn't ask for a copy. He showed me a copy which I
9 reviewed. It's a very brief document. I asked if there was
10 any other information regarding that one page of what appears
11 to come from a poll, but it doesn't even have a question. I
12 wanted to see it in context. I wanted to see what the whole
13 document was. I was told that that document that you have in
14 your hand essentially was all that was there in terms of being
15 introduced into evidence for this trial, which is what I had

16 asked.

17 Q. Clearly, you in your position, being interested in these
18 issues, would want to see the background information and any
19 other polls that they had in their position, wouldn't you?

20 A. I would most certainly be interested in seeing -- since
21 that document is in evidence -- I think there is an abundance
22 of data available in publically available polls. I certainly
23 make it a constant policy not to ask any organization for
24 internal documents that weren't publically available.

25 Since that poll was introduced in this case, I was, in

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1 fact, interested in seeing it. Had there been enough
2 information available about it to make any comment or
3 evaluation on it, I would be interested. I can't tell anything
4 about it. You can't even tell what the question is.

5 BY MR. YAFFA:

6 Q. Did you ask the lawyers who gave you this copy last week,
7 to get you the supporting background information?

8 MR. REILLY: Your Honor --

9 THE COURT: Sustained. Asked and answered. He's
10 already answered it. Next question.

11 BY MR. YAFFA:

12 Q. Let's talk about what the results show.

13 Do you see that? You get the whole question on there.

14 The whole question was regarding Surgeon General's
15 warning, January, 1972 through December, 1972, men and women,
16 correct?

17 A. What you have there is a chart. There is not a question
18 listed. One would have to make some effort to infer or
19 speculate about what the question was from the chart. I would
20 be very reluctant to do that, and really think that anybody
21 should without more information.

22 Q. The chart specifically says percentage aware of warning.
23 We are talking about the Surgeon General's warning, correct?

24 A. Well, that's what is listed at the top of the page.

25 Q. You don't have any other information other than what is

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1 listed at the top of the page and what is contained in the
2 chart, correct?

3 A. That's correct.

4 Q. The bottom line is that only 3.1 percent of smokers were
5 aware of the Surgeon General's warning as of the time this poll
6 was done, correct; isn't that what the chart says?

7 A. I don't think that you can know that's what the chart says.
8 Certainly, I don't know that this was just smokers. I don't
9 know that that's what the question was. There are some
10 percentages up there which talk about twelve percent regarding
11 a certain brand. I can't really make heads or tails of this
12 document.

13 I did review in a 1966 poll which showed over ninety
14 percent of all smokers are aware of the warning surgeon on the
15 pack, and another poll from the 1980s which showed, again, over
16 ninety percent of all smokers were aware of the warning on the
17 pack. I would be very doubtful that that's what that figure
18 was. Nobody knows for sure I don't think based on that
19 document that you're holding.

20 Q. When I ask you questions about this document, we are
21 talking about this 1973 poll. I didn't ask you about a 1966, I
22 didn't ask you about a 1980 study. I want to talk about this
23 one.

24 Based upon the information I have here, you can
25 specifically say that they looked at a smoker sample and they

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1 looked at a nonsmoker sample, didn't they; isn't that what it
2 says?
3 A. That's what those two columns say, but there's nowhere that
4 there's a methodology defined, nor a particular question. One
5 might infer that. But then there is some brand specific aspect
6 to it. One doesn't know what the question might have been with
7 relation to those brands. I just don't know.
8 Q. Doctor Ford, isn't it a fair reading that they looked at
9 both smokers and nonsmokers as to the percentage of people that
10 were aware of the warning? Look at it. That's what it says.
11 Isn't that a fair interpretation?
12 A. Again, you don't know that that's what was asked. I just
13 simply can't draw any inference. You can perhaps as argument,
14 but I can't as a scholar draw any inference unless I have a
15 little more information.
16 Q. Doesn't the smoker sample conclude that only 3.1 percent of
17 smokers were aware of the warning as of 1973?
18 MR. REILLY: Your Honor, I would object. This is
19 repetitious.
20 THE COURT: The objection is sustained. Next
21 question.
22 BY MR. YAFFA:
23 Q. That would indicate that ninety-seven percent were unaware,
24 correct?
25 MR. REILLY: Objection. He just asked the question in

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1 reverse.
2 THE COURT: Let's end this up. If you look at this
3 chart, what would the people, according to this chart, what
4 people were aware, or what people were unaware, as you read the
5 chart, as you see the chart?
6 THE WITNESS: Your Honor, I think what I am trying to
7 say, without knowing the question --
8 THE COURT: We have heard all that four times, doctor.
9 Now, we answer my question. Look at that chart. Tell the jury
10 the last question. How many were aware. How many were
11 unaware.
12 THE WITNESS: It looks to me like you have taken an
13 average, not a medium, but an average or a mean of the first
14 column here, whatever that is, by brands and we have reached an
15 average of 3.1 percent.
16 THE COURT: Which way, aware or unaware? According to
17 this chart which you, of course, have outlined to the jury all
18 the problems you see with the chart.
19 THE WITNESS: Yes, it says 3.1 in the first column and
20 under the column of aware.
21 THE COURT: Fine. Are there any other further
22 questions of this witness?
23 MR. YAFFA: No further questions, Your Honor.
24 THE COURT: Mr. Cesarano.
25 REDIRECT EXAMINATION

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1 BY MR. CESARANO:
2 Q. Good afternoon, Doctor Ford.
3 You have told us a little bit about some of the
4 research that you did. I believe you were asked the question
5 whether you performed exhaustive or thorough research.
6 Could you tell us approximately how many sources did
7 you go to review in the course of your research?
8 A. Literally dozens of dozens of sources resulting in a number
9 of items numbering in the thousands, all of which were pieces
10 of information that came into the public domain at times
11 material to my research.

12 Q. So you limited your research to those documents or
13 materials that were out there in the public?
14 A. That's correct. I was trying to do research into material
15 that was, which the public was aware, the publicity, the amount
16 of information, the type of information that was available
17 easily and broadly to members of the general public.
18 Therefore, if it was not in the public domain -- just by
19 definition -- isn't in the public domain, so I wasn't looking
20 at it.
21 Q. Other than that, did you limit your research in any
22 fashion?
23 A. No, I did not.
24 Q. Did you look at information and materials covering both
25 sides of the question?

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1 A. Yes I did. I think, as I certainly indicated during my
2 testimony, it came into the public domain. Regardless of what
3 the statement was, it was something that I made note of in my
4 research.
5 Q. In the course of your research, did you find coverage of
6 statements and positions taken by the tobacco companies?
7 A. Yes, as I testified, I did. Statements made by the tobacco
8 companies or entities representing them did appear in these
9 materials that I reviewed and were part of my research. In the
10 overwhelming majority of instances, those statements did not
11 appear, but they certainly did appear and explained industries
12 positions at various times, just as the positions of other
13 entities was explained.
14 Q. Now, a period of time was spent with you discussing this
15 poll, the most recent thing that we were just looking at.
16 Other than that document, were you provided any documents by
17 any attorneys in this case to assist you in your research?
18 A. It has always been my practice not to ask attorneys for any
19 selection of documents other than once the trial begins, I will
20 ask if there are any materials on exhibit or already admitted
21 into evidence that might pertain to my testimony. I did that
22 in this case and that produced that poll.
23 Q. You were asked a number of questions about this poll that
24 entitled A Special Presentation for Philip Morris. You read at
25 the bottom column, 3.1 percent.

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1 What I want to ask you, is that percentage of smokers
2 being aware of the warning on cigarette packages consistent
3 with your other research?
4 A. No, sir, it is not. It is, in fact, hugely inconsistent
5 with other things that I found during my research.
6 Q. In the course of your research, did you find a poll from
7 1966 that illustrates what percentage of people were aware of
8 the warnings on cigarette packs?
9 A. Yes, I did. I found a poll that was taken by the United
10 States Government, the Department of Health, Education and
11 Welfare, I believe, with elaborate methodological description
12 attached which asked very clearly the question of whether
13 people were aware of the Surgeon General's warning that had
14 gone on the package in January of 1966.
15 Q. That poll that you just described, is that the type of poll
16 that is a reliable --
17 THE COURT: Now you are getting into his opinion. He
18 can identify the document and show that he learned of it in his
19 research, but we are not going to get into his opinions about
20 all these polls.
21 BY MR. CESARANO:
22 Q. Exhibit AIW411 at page 699. Could you explain this,

23 please?

24 A. This is a poll that I found that was conducted by the
25 United States Public Health Service under health, education and

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1 welfare. It asked people if they had seen or heard about the
2 health warning label that is required on the outside of each
3 package of cigarettes. Among smokers, almost ninety-two
4 percent of men and ninety-four percent of women had seen or
5 heard about the health warning label. This poll was taken in
6 1966.

7 Q. You were also asked a number of questions about internal
8 documents, internal tobacco company documents. Why didn't you
9 review those internal tobacco company documents?

10 A. As I said, my methodology for this is I was trying to find
11 out about publicity, what information the public had at its
12 disposal, what the information environment was. If information
13 did not come to the public in easily accessible form like the
14 sources that I did use, I did not investigate it.

15 Sometimes information that's known inside an entity is
16 also known outside through public media. If that's the case, I
17 ran across it. If it was strictly an internal document,
18 whether it was a tobacco company or American Cancer Society or
19 some entity of the federal government, I would not have
20 included that in my research.

21 Q. You were also asked a number of questions about advertising
22 and advertisements. In the course of your research, did you
23 come across any polling or survey data that spoke to the issue
24 of the public's perception or belief in advertising?

25 A. Yes, I did. I found repeated number of surveys which

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1 showed that the public had a little confidence in advertising

2 --

3 THE COURT: Now, he is getting into his opinions and
4 telling us what he found and read. He can identify documents.
5 That's what he is here to do.

6 MR. CESARANO: Your Honor, he was describing the poll
7 that he found.

8 THE COURT: I don't think we have -- is he talking
9 about this document that's on the board in front of him?

10 MR. CESARANO: The one coming up right now, AIW290.

11 THE COURT: So the answer is he was not talking about
12 that. He was talking generally about his opinion about these
13 things. I had to cut you off on that.

14 MR. YAFFA: Excuse me. The chart that's being shown
15 to the jury was prepared by this witness. That is not the
16 poll.

17 THE COURT: Well, counsel, I'll have to excuse the
18 jury and find out what is going on here, what we are talking
19 about here.

20 Step out, ladies and gentlemen. Let's take it off the
21 board for the time being. I have already sustained objections
22 to anything that had to do with preparation for trial.

23 [The jury leaves the courtroom].

24 THE COURT: If that is what it is, I have sustained
25 that. If that's what it is, then we can't use it. If it's

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1 something that is a poll, is a document he discovered in his
2 research, then we can use it. What is it? Everybody have a
3 seat, please, except the lawyer that's talking to me.

4 MR. CESARANO: This exhibit was not objected to. It
5 was on the witness list provided to counsel.

6 THE COURT: Answer my question. Here we go with
7 labels and somatics again.

8 I will ask the doctor. Doctor, did you prepare this
9 document yourself?
10 THE WITNESS: The is a poll from Gallup --
11 THE COURT: Answer the question and then explain it.
12 Did you prepare it?
13 THE WITNESS: I think the bar graph is mine. Showing
14 the percentages in terms of the bar graph, as I recall, is my
15 presentation.
16 THE COURT: So you did prepare this document?
17 THE WITNESS: I guess the short answer to that would
18 be yes, but there is a poll that shows --
19 THE COURT: This is not something you discovered when
20 you went out to look for documents?
21 THE WITNESS: Well, the poll itself is.
22 THE COURT: You all are really getting good at evading
23 direct answers to the questions. The question is quite simple,
24 doctor. You are a historian, and I presume -- I've given you
25 credit for being a good one, and I want to believe that. But

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1 answer my questions, please.
2 Did you or someone under your direction prepare this
3 poll from other documents that you looked at, this chart that
4 we are looking at right now? Was it done by you or someone at
5 your direction from a whole bunch of other documents or several
6 of the documents, or is this something you found in Reader's
7 Digest in 1956 or some place else? It's a simple answer.
8 THE WITNESS: Your Honor, I think that I can show the
9 Court exactly what I found.
10 THE COURT: All right. He can't answer the question.
11 The objection is sustained. His answer will be stricken. I
12 can't get an answer out of you people. I am getting a little
13 fed up with it on both sides. I mean, really and truly, we
14 know that going out and preparing documents for a fact witness
15 to show to the jury is not permitted in this trial.
16 THE WITNESS: Your Honor --
17 MR. REILLY: Wait a second. Your Honor, let me clear
18 this up. The witness prepared the chart. We have the actual
19 document here. We will do this the hard way --
20 THE COURT: No, you will do it, sir. It's not the
21 hard way. It's the way that I have insisted on both sides all
22 through the trial. The people who have done research to find
23 documents, fine. We can't just dump bushels and bushels of
24 documents. Somebody has got to sit here and say "I went out
25 and I found it, and here it is. Here's where I found it.

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1 Here's what I've done."
2 It's when they start to give opinions on all that that
3 we get into difficulty. Normally, they wouldn't even be able
4 to say I found the document. It's only in these tobacco cases
5 that we get into this sort of mess, evidentiary-wise mess.
6 What I have here and what I am troubled with is
7 getting into opinions by a lay witness, a fact witness. He can
8 tell us what he found, he can tell us where he found it. The
9 others have had to do that all the way through this trial.
10 That's not doing it the hard way. That's doing it the simple
11 way. That's to avoid all this stuff of everybody sitting here
12 bothering away for days end about what they think the documents
13 show. That's what I am trying to avoid. Once he gets into
14 what he thinks the documents show, then the other side gets to
15 come back and try to show that he's wrong, and then here we go.
16 Mr. Reid.
17 MR. REID: Your Honor, if I can just maybe help
18 clarify. I have in my hand an Exhibit AIW290. It is an actual

19 poll. It reads, "how do you feel about television commercials
20 -- did you think they are -- "
21 THE COURT: Whatever it says, it's in evidence, right?
22 MR. REID: That's right. What's up here is not an
23 opinion. It is just quoting --
24 THE COURT: It's an exhibit?
25 MR. REID: It's the same information, yes, sir. May I

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1 hand it up?
2 THE COURT: No, I want you to tell me because I am
3 going to get some direct answers.
4 MR. REID: Yes, sir.
5 THE COURT: I respect you for a long time.
6 Now, what I want to know is the document that's in
7 evidence, the exhibit, is that what is on the board?
8 MR. REID: No, not in that form.
9 THE COURT: I didn't think it was, and I thank you for
10 that. That's what I want, just a candid answer. I want to
11 know some answers to some questions.
12 So that document, if it were on the board, this,
13 Mr. Cesarano, the lawyer, could ask the witness did you find
14 this document? You say, yes. Then he could say something,
15 whatever he wants to say about percentages. What is not
16 prohibited and what is prohibited was not permitted. It's for
17 the lay witnesses to go out and make up a bunch of stuff and
18 bring it in there and dump it on the jury. By either side,
19 we're not going to permit it.
20 Yes?
21 MR. GROSSMAN: With all sincerity, we are moving to
22 strike his testimony because this is what you instructed us to
23 avoid. We didn't even bring up the Wall Street Journal
24 article. We didn't bring up the letter from this head of the
25 Gallup Poll. We are trying to conduct this as well as we can.

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1 Showing that exhibit, knowing it was a manufactured
2 exhibit, they knew it was a manufactured exhibit, is outside of
3 what was supposed to be allowed from this lay witness.
4 THE COURT: I have sustained your objection. That's
5 all I can do at this point.
6 MR. GROSSMAN: I am moving to strike his testimony.
7 THE COURT: His last answer?
8 MR. GROSSMAN: No, his entire testimony because of
9 this way it's been presented.
10 THE COURT: That motion is denied. Bring the jury. Do
11 you have much more of this witness? If this document's in
12 evidence -- see, this is what I was talking about. Lawyers can
13 argue this stuff to the jury. That's why I have such a
14 disenchantment with experts. You bring in experts and they
15 blabber all over the place about what they think, when lawyers
16 are supposed to argue this to the jury. Both sides.
17 MR. CESARANO: This document would be the last thing
18 that I would show him and ask him.
19 [The jury returns to the courtroom].
20 THE COURT: Thank you. Be seated. Ladies and
21 gentlemen, Mr. Cesarano is going to place up on the bulletin
22 board a document that is in evidence. It is a chart or a
23 diagram that is in evidence that deals with the subject about
24 which Doctor Jones has been asked certain questions.
25 Mr. Cesarano.

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1 BY MR. CESARANO:
2 Q. Doctor Ford, in the course of your research, did you come
3 across any polling information relating to cigarette

4 advertising, the believability of it?
5 A. Yes, I did.
6 Q. This is Exhibit AIW290.
7 Is this where you found the poll?
8 A. Yes, I believe this is a poll from 1957 or 1958. It just
9 asks people how do you feel about television commercials, do
10 you think they're used on truthful arguments or not?
11 Sixty-seven percent said yes, they do. Nineteen percent
12 didn't. And fourteen percent expressed no opinion. That was
13 this poll that I found.
14 MR. CESARANO: Your Honor, at this time I would move
15 into evidence all the properly marked exhibits that we have
16 referred to throughout Doctor Ford's direct and redirect
17 examination that have been unobjected to.
18 THE COURT: All right. Do you have a list of those?
19 Can you recite for the record a list of those, or can someone
20 make a grouping of them and we will mark them at the next
21 recess. They are admitted into evidence. We will review them
22 at the next recess.
23 MR. CESARANO: They have all been labeled and marked.
24 THE COURT: Thank you very much. Doctor Ford, you can
25 step down. Ladies and gentlemen, we will take a short recess.

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1 [The jury leaves the courtroom].
2 THE COURT: Let me announce tomorrow morning's
3 schedule. We have yet to complete the submission, the oral
4 argument submission, by plaintiff's counsel, Mr. Perwin, and
5 then a brief response thereto by defense counsels, Mr. Reilly
6 and Mr. Reid. Thank you very much.
7 I have decided, we are going to resume tomorrow
8 morning at 8:30. Mr. Perwin has consumed thirty-two minutes of
9 his time. The defendants had taken forty-eight minutes. I
10 didn't charge Mr. Reid with the first ten minutes when we were
11 explaining memories of who was on the Supreme Court at a
12 certain time. So I started his time this morning at 8:40.
13 Mr. Reilly commenced at 9:19. Mr. Perwin at 9:28. That all
14 equals out to forty-eight minutes for the defense so far,
15 thirty-two minutes for Mr. Perwin so far.
16 We agreed that we would have ninety minutes to a side.
17 We ran out of time. Under my computations Mr. Perwin has -- I
18 am going to give the defense counsel fifteen more minutes for
19 rebuttal. If you add that to the thirty-one minutes that
20 Mr. Perwin has remaining, he would get I guess forty-six
21 minutes, fifteen minutes rebuttal, fifteen-minute recess. We
22 will start with the jury promptly at 9:00.
23 I am sorry. It can't be right. I guess we have to
24 make that 9:30. So we start with this argument at 8:30. I
25 guess I will have to start with you at 8:15. I would like to

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1 take a brief recess between all of your arguments and between
2 starting with witnesses. We will start with witnesses at 9:30.
3 Start with the jury at 9:30, and with argument I guess at 8:15.
4 That will give us time for a brief recess.
5 All right then. 8:15 tomorrow for the argument. We
6 will be back in just a moment.
7 Ms. Kramer, have you notified Mr. Perwin because I
8 promised that we would?
9 COURTROOM DEPUTY: I did, but I told him 8:30.
10 [There was a short recess].
11 MR. GROSSMAN: Do you have the ability to call up an
12 answer and read back the question, because I can't read mine
13 with this microphone unless I take the portable microphone and
14 go back to my table and read it, if I could do that?

15 THE COURT: Sure.
16 MR. GROSSMAN: Thank you.
17 THE COURT: By the way, 8:30 will work. 8:30, not
18 8:15. We have about forty-five minutes of argument and ten
19 minute recess and then be back at 9:30 with the jury.
20 Mr. Grossman.
21 MR. GROSSMAN: Thank you, Judge.
22 Judge, I am calling your attention to a question that
23 appeared at 14:33:22. Mr. Yaffa had finished asking Doctor
24 Ford questions about the internal Philip Morris poll in which
25 they retained the Gallup organization, Princeton, New Jersey.

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1 THE COURT: In which they what?
2 MR. GROSSMAN: They had retained the Gallup
3 organization. He said, "I see the numbers." You recall
4 finally you took over the questioning. You asked him what
5 percentage of smokers, what percentage of nonsmokers -- it was
6 this document that he hadn't been given until just before
7 trial.
8 Mr. Cesarano then asked him -- that was our last
9 question -- you were tired and fed up with the questioning. We
10 sat down, and that was it. That was appropriate. I am not at
11 all suggesting otherwise.
12 Mr. Cesarano then asked the witness the following
13 question. This is after he answers your questions.
14 Mr. Cesarano: Doctor Ford, in the course of your research did
15 you come across any polling information relating to cigarette
16 advertising and the believability of it?"
17 Doctor Ford said "yes, I did." He is saying yes, I
18 did come across research regarding polling information about
19 cigarette advertising its believability.
20 At that point, the exhibit that we had referred to, it
21 was just referred to was put up. It was called A1290. You
22 wouldn't let him show the graph that he had prepared. So he
23 took out the Gallup Poll itself. This is after that long
24 discussion.
25 Judge King, the question posed on this has nothing to

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1 do with cigarette advertising. There is not a thing on this
2 poll that deals with cigarette advertising. This was his
3 answer. This is now Mr. Ford's answer after his made-for-court
4 exhibit comes down. He has the Gallup Poll in front of him.
5 He says "I believe this is a poll from 1957 or 58. It
6 just asked people; how do you feel about television commercial?
7 Do you think they are used on truthful arguments or not. 67
8 percent said yes, they do. 19 percent said they didn't. 14
9 percent expressed no opinion. That was the poll I found."
10 Again, stated better, this Gallup Poll did not ask a
11 question at all about cigarettes. It was a question about do
12 you believe T.V. advertising -- let me just walk forward, if I
13 can. I am presuming that with few exceptions, the same type of
14 advertising took place back then as it does today, a variety of
15 products, a variety of products. Maytag washers, Tide
16 Detergent, automobile ads, beer ads, Coca-Cola. It's
17 misleading. This is wrong.
18 This is a poll in response to a question about how do
19 you undue the effect of the internal ad, the Gallup Poll, the
20 same poll that they did internally for them.
21 This is the answer that he got. He was asked to step
22 down and walk out. I think he needed to get off the stand by
23 all accounts. I am moving to strike his last question and
24 answer, and have this exhibit, which is irrelevant, to this
25 cause. It says nothing about smoking. It was the specific

1 question Mr. Cesarano asked is, "do you find something that
2 would negate this previous internal poll that the defendants
3 have taken themselves in using the Gallup organization."

4 I have searched this document, sir. The question that
5 he put up and highlighted said the following: How do you feel
6 about television commercials? Do you think they use untruthful
7 arguments or not?

8 67 percent.

9 He went on to ask questions on this page; "if you are
10 a party nominated a generally well-qualified man for President
11 and you happen to be a Catholic, would you vote for him?" That
12 was another thing on this question.

13 It was in response to how would possibly negate the
14 knowledge of cigarette smoking and the warning questions. It
15 just doesn't. It never did. I don't understand how this
16 question could be asked and answered in this fashion and be
17 accepted.

18 I apologize, because he was asked to stand down and he
19 walked right out of here. This is what the record shows.

20 When we first saw it put up this way -- you see, what
21 happened was, the little question appeared at the top. The
22 graph was at the bottom. I kept looking for the word
23 "cigarettes." Where is "cigarettes." I could say beyond that,
24 sir, it doesn't talk about newspaper ads or magazines ads or
25 all the myriad of things that were more readily available in

1 the 40s, before T.V. was invented and the 50s when T.V. was
2 just coming out, et cetera.

3 The point is, this is a how do you feel about
4 television commercials ads, and it doesn't have a thing -- to
5 do with what it was supposed to clarify or rebut, calls a
6 special presentation for Philip Morris by with the Gallup and
7 Robinson Company, which went brand by brand with the smoker
8 sample, nonsmoker samples. These two things have nothing to do
9 with each other. Nothing. The questions asked was do you have
10 information that you think says this is inaccurate, in essence.

11 We are moving to strike that and have this useless
12 exhibit withdrawn.

13 MR. REID: Your Honor, Mr. Grossman, with all respect,
14 is confusing several different events that occurred.

15 At the conclusion of that document, the Philip Morris
16 document, Mr. Cesarano used AIW 411 in response to that
17 document which said, "have you seen or heard about the health
18 warning label that is required on the outside of each package
19 of cigarettes." Ninety-one percent said yes. And then
20 ninety-four women. That's the document that he used which went
21 directly to that Philip Morris document.

22 Later, Mr. Cesarano misspoke. In his question, if you
23 look at the last question, he said "cigarette advertising." He
24 should have said "television advertising." The question is not
25 evidence. The evidence is what was put on the board. I can

1 show it to you.

2 Doctor Lacy -- I can show it. That's what the jury
3 saw, so there's no confusion. Mr. Cesarano's question said
4 "cigarettes." It shouldn't have. We have been thinking about
5 cigarettes today. The jury saw that. That talks about
6 television commercials, and it talks about whether people
7 believe commercials. And the whole issue about people should
8 have known this from the Camel ad that they put into evidence,
9 that response to the general area of television commercials.

10 Therefore, he shouldn't have said "cigarette." You

11 can strike the question, but that's not the answer. The answer
12 is what the jury saw without any confusion at all, because you
13 struck the chart that had the bars on it and would not let him
14 use that. But then you said "use this." The jury saw this.
15 There is nothing confusing about it or misleading at all.

16 MR. GROSSMAN: This has nothing to do with my friend
17 Greg Cesarano's ability to ask a question. He asked a very
18 good question. It followed up on our introduction of this
19 Gallup Poll that this gentleman said he had just seen in the
20 beginning. He properly asked him is there something about
21 cigarettes. What else would he want to refute if not knowledge
22 about cigarette warning labels. That's what we are talking
23 about.

24 I would like to see that other graph, if you can, sir.
25 Can you put that one up that was up initially. This is the one

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1 that he had made for court that you said no one is going to
2 come down. Then of course, we got this one put up, sir.

3 THE COURT: Gentlemen, I am going to resolve this in
4 this fashion and take the matter under advisement and let you
5 review the transcripts. I understand that you are getting
6 copies of the transcript. You all can review the transcript.

7 It may well be that tomorrow morning you all can agree
8 on some brief instruction I can give the jury by correcting a
9 mistake in the questioning or in the answer, whatever it may
10 be. If you can, fine. If you can't, then I will consider,
11 with the transcript in front of me and the exhibit numbers in
12 front of me, and I will know clearly what you all are talking
13 about.

14 Without prejudice to anybody, simply reserve ruling on
15 it. I can always direct the jury to disregard an answer or to
16 modify a question. I can always do that tomorrow at some point
17 in time. I think that's the best I can deal with this at this
18 point.

19 MR. GROSSMAN: Thank you.

20 THE COURT: Mr. Reid, who is your next witness?

21 MR. REID: Doctor Jeffrey Gentry. He is ready to go.

22 THE COURT: Would you bring in the jury please.

23 Doctor, would you step forward.

24 Everybody knows the time that we meet tomorrow
25 morning. 8:30.

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1 MR. REID: Yes, sir.

2 [The jury returns to the courtroom].

3 THE COURT: Thank you. Be seated. Mr. Reid, call
4 your next witness please.

5 MR. REID: The defense calls Doctor Jeffrey Gentry.

6 COURTROOM DEPUTY: Please state your full name
7 spelling your last name for the record.

8 THE WITNESS: Jeffrey Scott Gentry, G-e-n-t-r-y.

9 JEFFREY GENTRY, DEFENDANT'S WITNESS, SWORN.

10 DIRECT EXAMINATION

11 BY MR. REID:

12 Q. Doctor Gentry, where do you live?

13 A. [DELETED].

14 Q. Are you married?

15 A. Yes, I am. I have two children. Been married for
16 twenty-four years.

17 Q. By whom are you employed?

18 A. With R.J. Reynolds Tobacco Company.

19 Q. What is your title as we speak?

20 A. I am Vice President of applied research and reduced risk
21 product development.

22 Q. How long have you been employed by Reynolds Tobacco
23 Company?
24 A. I have been with Reynolds since June 30, 1986. About
25 sixteen and a half years.

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1 Q. Over those years, how many have you been involved in the
2 design relating to cigarettes?
3 A. Since I joined the company I have been involved in product
4 development, the design of cigarettes, new technologies and
5 reduced risk development?
6 Q. Would it be appropriate to call you a cigarette designer?
7 A. Yes, I am a cigarette designer and product developer.
8 Q. You prepared a demonstrative to demonstrate what a
9 cigarette designer is because those people don't run across
10 those so much. Could we have the first one please.

11 Using the chart, tell the jury what you do generally.
12 We will be talking specifically later. But tell the jury what
13 you do as a cigarette designer.

14 A. In cigarette design there are a number of different things
15 that we have to do. But cigarettes, typical components that
16 people think about with respect to cigarettes are the tobacco,
17 of course, the paper that surrounds the tobacco and then the
18 filter. Those are the primary components.

19 There are a number of design variables that can be
20 used as to what is the ultimate objection for that cigarette.
21 Those design variables include filter ventilation, filtration
22 efficiency, the type of blend of tobacco. There are a number
23 of design variables that can be used to achieve some
24 objectives.

25 Finally, you want to make sure you understand the

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1 smoke chemistry. In order to do that you have to understand
2 how the cigarette was constructed; how you put it together;
3 what the chemistry of the tobacco that you used was.

4 Finally, you get into the performance of the
5 cigarette. Measuring whether you achieve some objective of
6 your design and whether you can make that in a commercial scale
7 and make it consumer acceptable.

8 Q. We are going to talk about the various topics as we work
9 through this afternoon.

10 A. Yes.

11 Q. Have you been asked to appear in this courtroom and give
12 expert opinions regarding the subject of cigarette design?

13 A. Yes, I have.

14 Q. Do you have knowledge, and are you able to express expert
15 opinions, about whether or not R.J. Reynolds and tobacco
16 industries in general have provided consumers with a wide range
17 of cigarettes which sought to deal with the various health
18 claims over the past fifty years?

19 A. Yes, I can offer those opinions.

20 Q. Are you able to offer opinions with regard to whether the
21 Federal Government or anyone, a foreign company, anybody
22 outside of the domestic tobacco companies, have developed
23 feasible alternative designs for cigarettes that are considered
24 to be superior to the current designs?

25 A. Yes, I can offer that opinion as well.

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1 Q. Before we actually get to those opinions, let me ask you
2 some questions about your background. Tell the jury where you
3 were educated and what your education consisted of.

4 A. Okay. I got my undergraduate education at the University
5 of North Carolina in Chapel Hill. That was a bachelor's degree
6 in zoology. I then went to work for a couple of years in the

7 trucking industry. Decided I wanted to go to graduate school
8 in chemistry, and I attended NC State University in Raleigh,
9 North Carolina and got my Ph.D in analytical chemistry in 1986.
10 Q. What did you do in the trucking industry?
11 A. I was a management trainee and then an operations
12 supervisor.
13 Q. What kind of trucks?
14 A. Watkins Motor Lines.
15 Q. That's a long haul, 18 wheeler kind of stuff?
16 A. Yes, sir.
17 Q. What is analytical chemistry?
18 A. Analytical chemistry is a study of chemistry where you are
19 interested in identifying and quantifying constituents of
20 complex matrices.
21 Q. Constituents we heard about. What are complex matrices?
22 A. Complex matrices are a number of things we see every day.
23 They could be cigarette smoke, coffee, tea, foods that we eat,
24 natural extracts used for flavoring of foods. There are a
25 number of complex matrices that you can study.

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1 Q. Did you publish anything while you were getting your Ph.D.
2 at NC State?
3 A. Yes, I did. It was in the area of electro refinement of
4 indium through an alkyl metal complex electrolyte.
5 Q. I bet you think I know what that means? Can you say that
6 in English.
7 A. Yes, we were looking at how to purify a particular metal
8 used in the production of semi-conductors for the
9 semi-conductor industry at that time.
10 Q. Have you ever published anything since your undergraduate
11 or graduate base?
12 A. Yes, I have published since I have been at Reynolds.
13 Q. What was the topic of that?
14 A. I published on the thermal stability of potassium carbonate
15 near its melting point, and the Journal of Thermochemica Acta.
16 Q. The jury has heard about peer review journals. Were both
17 of your articles published in peer review journals?
18 A. Yes, they were both peer reviewed.
19 Q. Some other scientists had to read them and review them and
20 approve them before they can be published?
21 A. Yes, that's typical peer review process.
22 Q. Did you ever have an opportunity to make presentations
23 about your research?
24 A. In graduate school?
25 Q. Yes, sir.

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1 A. In graduate school I made a number of presentations to
2 Analytical Chemistry Society.
3 Q. Did you make any to the American Chemical Society?
4 A. Yes, I did.
5 Q. How about the Federation of Analytical Chemistry?
6 A. Yes, I did.
7 Q. Once you obtained your Ph.D, I assume you went to work?
8 A. Yes.
9 Q. Where did you go to work after you got your Ph.D?
10 A. Right after completing my Ph.D, about ten days later. I
11 began work at R.J. Reynolds Tobacco Company.
12 Q. Is that the only place you considered working?
13 Tell us a little bit about how you arrived at R.J.
14 Reynolds as opposed to somewhere else.
15 A. In the spring of the year that I was finishing graduate
16 school, I began interviewing with a number of companies and
17 then visited three or four companies. I was offered a position

18 at Tennessee Eastman as an analytical chemist, and then R.J.
19 Reynolds offered a position to me as a more of a general
20 scientist in the area of product development.
21 Since I grew up in Winston-Salem, I was more
22 interested in being a general scientist in the are of product
23 development. I was more interested in being a general
24 scientist than being an analytical chemist for the rest of my
25 life, so I decided to work for R.J. Reynolds.

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1 Q. What year was that?
2 A. 1986.
3 Q. Have you worked continuously for Reynolds since then?
4 A. Yes, I have.
5 Q. Can you give us an overview of some of the research
6 projects or some of the work that you have done while you have
7 been at Reynolds?
8 A. Sure. I began working at Reynolds working on the Premier
9 Project, which some people know that as the smokeless
10 cigarette. I began working on Premier. That was in the area
11 of product development. Then I went on from there to work on
12 more of a unique new advanced materials and new products. Then
13 I worked in an area studying papers used in filtered cigarettes
14 or cigarette construction. Then went into the area of
15 filtration and reduced risk product development, tobacco
16 burning and tobacco heating cigarettes.
17 Q. You mentioned Premier. The jury heard about another
18 product that we will talk about later, but did you also work on
19 the Eclipse product?
20 A. Yes, I did.
21 Q. Has all of your work been kind of white collar in the lab
22 kind of work, or have you had other experiences in the industry
23 since you've been at Reynolds?
24 A. I certainly progressed from working in the laboratory every
25 day. That was the home that I had for many years. As I had

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1 more responsibilities and demonstrate more accomplishments, I
2 was promoted to my current position.
3 Q. Have you ever worked in the tobacco fields?
4 A. Oh, yes, I have. Much of my experience through the years
5 in what I believe is much of my foundation in this area is
6 working in the area of actually planting the tobacco, different
7 types of tobacco, studying that. Researching different types
8 of tobacco, their effects on tobacco chemistry, smoke
9 chemistry, and learning how that impacts cigarette design and
10 consumer acceptance.
11 Q. Have you worked on projects looking for alternative designs
12 with the goal of reducing the risk of smoking?
13 A. Yes, if fact, right after working on Premier, that was
14 really the next area that I worked in, trying to look at
15 alternate designs for risk reduction.
16 Q. Have you looked into the question of different kinds of
17 tobacco and the way tobacco is grown with regard to the
18 potential for risk reduction?
19 A. Yes, I have, quite a bit.
20 Q. Okay. You told us what your title now is. How long have
21 you held your current title?
22 A. I have been Vice President of Applied Research since
23 January of this year. We had a reorganization. Prior to that
24 I was already a Vice President, but my title was Vice President
25 of product development.

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1 Q. Okay. Can you give the jury some of the subject matter
2 areas of work that would be supervised by you in your current

3 position.
4 A. Yes, with this reorganization, we actually formed some
5 groups that were targeted specifically at Applied Research in
6 the areas of combustion, paper research, filtration research,
7 tobacco research and then process research, how to take all of
8 that. Then the other group that is under me is reduced risk
9 product development.
10 We learned how to take all of those different research
11 elements and put them together for reduced risk.
12 Q. How many people work for you in these groups that you
13 described?
14 A. Approximately fifty.
15 Q. Have you ever had involvement in advertising or marketing
16 of Reynolds products?
17 A. I have never been responsible for that, no.
18 Q. Have you ever had any involvement in any external relations
19 by Reynolds with the public at large?
20 A. I have never been responsible for that either.
21 Q. Have you ever testified in court on behalf of R.J. Reynolds
22 before today?
23 A. No, I have not. This is the first time.
24 Q. Do you get -- do you get off some of your job because you
25 are testifying, or any change in your responsibilities because

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1 you are here today testifying?
2 A. No, my job is stacking up at home.
3 Q. Do you get anymore money because you are down here
4 testifying than you would from your normal job?
5 A. I do not.
6 Q. During the time that you have been working at R.J.
7 Reynolds, have you had the opportunity to do lectures and
8 present scientific topics to people?
9 A. Yes, I have.
10 Q. Tell the jury a little bit about that.
11 A. Many of those presentations have been internal
12 presentations. Particularly one was on cigarette design. It
13 was a course in cigarette design. One of the areas that I was
14 specifically responsible for putting together was design trends
15 and cigarette design.
16 Q. Do you hold any patents; things that you have invented that
17 the United States Government has issued a patent for?
18 A. Yes, I do.
19 Q. How many patents do you hold?
20 A. Thirteen I believe.
21 Q. What is the general area of these patents?
22 A. The majority of these patents are in the area of cigarette
23 components. Those components are either for tobacco burning
24 cigarettes or tobacco heating cigarettes. Most of them are
25 components or construction elements of those cigarettes.

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1 Q. Does R.J. Reynolds use today any of your patents in its
2 commercial cigarettes?
3 A. They use some of them, yes.
4 Q. Are there some that they don't use for one reason or
5 another?
6 A. Yes, some of those patents are not used in our commercial
7 cigarettes. They are somewhat of a competitive protection
8 element.
9 Q. That means that you patent it because you may want to use
10 it later?
11 A. May want to use it later and may want to make sure our
12 competition doesn't use beat us to it.
13 Q. Does R.J. Reynolds compete with Philip Morris?

14 A. Absolutely.
15 Q. You told us about your training and your work experience;
16 how does the things that you study relate to the job that you
17 do today?
18 A. Do you mean my education now?
19 Q. How does your education relate to what you do on a daily
20 basis?
21 A. I think my educational background taught me a number of
22 things, one was the scientific method and how to you very
23 rigorous in the scientific method. Obviously, in graduate
24 school and undergraduate school you learn how to use library
25 and how to use outside expertise to make sure you are not

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1 reinventing the wheel when you embark on a project.
2 Q. Have you continued to have on-the-job training over the
3 years?
4 A. Yes, much of my experience has been on-the-job training.
5 Q. What do you do that gives you additional training on the
6 job?
7 A. I think there are a number of elements to that. I worked
8 in the fields and then in the laboratories. Part of it is
9 that. Part of it is interfacing with other scientists. Part
10 of it is attending technical presentations at scientific
11 conferences, reading papers, researching the literature. There
12 are a number of ways that I try to improve my expertise.
13 Q. Is there something called the Tobacco Science Research
14 Conference?
15 A. Yes.
16 Q. Tell the jury what that is, when it started and what it is.
17 A. The Tobacco Science Research Conference started as the
18 Tobacco Chemist Research Conference. It began in the 1940s.
19 That is an annual meeting. It is a technical meeting. It
20 continues today. It's where topics of tobacco, cigarette
21 design, smoke chemistry, biological activity are presented and
22 it's widely attended by people in the industry as well as
23 people outside the industry.
24 Q. Over the years have scientists from R.J. Reynolds made
25 presentations at these conferences?

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1 A. Yes, we have. I think we probably made in the order of
2 300.
3 Q. You say these conferences have been held back into the
4 '40s?
5 A. Yes.
6 Q. You said scientists from tobacco companies attend?
7 A. Yes. Often, in fact, every meeting that I know of,
8 chemists from the tobacco industry, biologists from the tobacco
9 industry both are competitors.
10 Q. Is there any restriction at those meetings to only tobacco
11 company employees?
12 A. No. In fact, they are often attended by people in the
13 public health community or other people in academic.
14 Q. Nobody has to sign an affidavit saying that they promised
15 never to work again for the tobacco companies to get to come to
16 those meetings?
17 A. No.
18 Q. The jury heard about Doctor Wynder and Doctor Hoffman.
19 They were together at one point, right?
20 A. Yes.
21 Q. Has Doctor Hoffman ever appeared at these meetings?
22 A. Yes, Doctor Hoffman was a frequent attendee to the TSR
23 meetings.
24 Q. Now, when you had started working at Reynolds in cigarette

25 design and as you moved through the ranks, was it ever

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1 important for you to know what happened about the subject
2 before you got to Reynolds?

3 A. Yes.

4 Q. Why would that be important?

5 A. I think it's very common in any scientific field to make
6 sure that as you embark on studies or embark in a new area that
7 you make sure that you understand what was done before you.

8 Q. How did you go about learning what had been happening at
9 Reynolds in the area of cigarette design testing research?

10 A. A lot of that is done through talking with scientists who
11 are there, and then using our library and researching the
12 literature both internal and external.

13 Q. Did you look at text reports and lab reports that
14 scientists would have created as they were doing the work?

15 A. Yes.

16 Q. Now, talking about literature in general, the scientific
17 literature that is out there, is that important for you to be
18 familiar with?

19 A. Absolutely. It's very critical.

20 Q. Why?

21 A. I think as a scientist in any field you have to be aware of
22 the publications, the technical information that is in the
23 literature. That is part of the foundation of all science.

24 Q. Is it also helpful or important for you to understand what
25 your competitors are doing in the field of science?

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1 A. Yes, we try to keep up with our competitors.

2 Q. How do you do that?

3 A. There are a number of ways. We make sure we keep up with
4 anything that they are publishing in the literature. We make
5 sure that we keep up with things that they are patenting. We
6 try to make sure that we are watching their product in the
7 market place. We test their products frequently. If they have
8 a new product introduction, or we see a product that has
9 changed as we begin measuring things about it, we actually will
10 try to reverse engineer that product.

11 Q. What does reverse engineer mean?

12 A. You essentially are trying to tear down that product,
13 understand the different components, how it's made up, figure
14 out how can I put that product together using my technologies.

15 MR. REID: Your Honor, at this time I would tender
16 Doctor Gentry as an expert witness in the field of cigarette
17 design.

18 MR. YAFFA: Limited to that area, Judge, no objection.

19 THE COURT: Mr. Reid, and ladies and gentlemen, if you
20 all indulge me. My wife is taking our grandchildren on a trip.
21 And she is getting ready to leave to Key West. I need to say
22 good-bye to them. I'm sorry to interrupt. This will only take
23 about five minutes. Thank you.

24 [The jury leaves the courtroom].

25 THE COURT: Doctor, you can step down. Once you are

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1 in your testimony, you really can't talk to the lawyers about
2 your testimony. You can talk to them, but not about your
3 testimony.

4 While the jury has stepped out, one of the jurors has
5 handed me a note that plaintiff's counsel, in talking to each
6 other, sometimes -- I am sure without realizing it -- have been
7 louder or noisier than you meant to be. And that the juror
8 wants to be careful not to accidentally hear anything or overhear
9 anything that they shouldn't. So they asked me to ask you to

10 please keep your voices very low and keep it down. Okay.
11 MR. GROSSMAN: Thank you.
12 THE COURT: All right.
13 [There was a short recess].
14 THE COURT: Thank you. Bring the jury in please.
15 [The jury returns to the courtroom].
16 THE COURT: Thank you. Be seated.
17 Ladies and gentlemen, when we recessed, Mr. Reid had
18 tendered Doctor Jeffrey Gentry as an expert in cigarette
19 design. There is no objection to that. I don't think we need
20 to explain to the jury what an expert can and can't express.
21 They can express opinions. That's the basic thing.
22 BY MR. REID:
23 Q. Doctor Gentry, I want to start by discussing with you the
24 sort of premise that you use that is fundamental to your design
25 work in cigarette design area. With regard to whether or not

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1 cigarettes cause disease, do you have a premise that you
2 operate under, an assumption that you make that then guides
3 your work thereafter?
4 A. As a scientist at R.J. Reynolds, we operate under the
5 premise that cigarette smoking causes chronic disease.
6 Q. Why do you operate under that premise in your design work?
7 A. Because I think that's a premise -- if your working premise
8 is that cigarette smoking causes chronic disease, it drives you
9 harder to make sure you are pushing everything you know to do
10 to reduce the risk of smoking.
11 Q. In the 17 years you have been at Reynolds, has that always
12 been the premise that the designers and research and
13 development people have operated under?
14 A. That certainly is my experience, yes.
15 Q. In the scientific books and so forth that you reviewed,
16 going back to the 50s, let's say, are you able to determine
17 whether or not that premise is being used during that period?
18 A. It certainly would be my opinion, after looking through a
19 number of documents and looking in our library they have worked
20 under that premise for 50 years.
21 Q. Do you have a personal opinion -- I realize you are not a
22 medical doctor, but you are a scientist and chemist in
23 cigarette design, do you have a personal belief as to whether
24 smoking causes any injury?
25 A. No, I am not a medical Doctor, but I do have a personal

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1 opinion. I believe that smoking can cause and can contribute
2 to chronic diseases in some individuals.
3 Q. Why do you limit it to some individuals?
4 A. The reason that I have to limit it in my mind is that only
5 about ten percent of all smokers contract lung cancer. It's
6 hard for me to say that everybody who smokes is going to get
7 lung cancer with those kinds of statistics. I have to limit it
8 in my mind to causes chronic disease or can contribute to
9 chronic diseases in some individuals.
10 Q. There are, obviously, other things that might contribute or
11 cause the same diseases?
12 A. Yes, I believe as we learn more and more about the area of
13 causation that we are learning more that genetic factors play
14 into that, environmental factors, diet. I think there are a
15 number of factors that can play into that.
16 Q. Does everybody at R.J. Reynolds Tobacco Company that you
17 come into contact with, have the same opinion about this that
18 you have expressed?
19 A. No, we have a wide range of opinions on a number of topics.
20 We are free to express those opinions.

21 Q. Are scientists at R.J. Reynolds required to adhere to a
22 particular company policy about issues relating to smoking and
23 health?

24 A. We are not required to adhere to a policy in smoking
25 health. People are afraid to have and express their own

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1 opinions. Our chairman and chief executive officer does say
2 that we should all believe that cigarette smoking is a
3 significant risk for chronic disease.

4 Q. Over the years, during your time and before, to the extent
5 that you have studied the question, are scientists at Reynolds
6 free to write documents?

7 A. Yes, we are free to write documents.

8 Q. Are you free to write documents that express your own
9 personal opinion as opposed to somebody else's opinion or a
10 company opinion?

11 A. Yes, we are.

12 Q. Obviously, I assume that means people can write articles or
13 write papers in whatever form, memos, whatever, about smoking
14 and health issues?

15 A. Yes, we have that.

16 Q. Are people at Reynolds, and have people at R.J. Reynolds
17 been free over the years to write things about areas to which
18 they have no involvement in their daily work?

19 A. Yes.

20 Q. Have you seen, from time to time, documents written about
21 people about a subject that they weren't really involved in on
22 a day-to-day basis?

23 A. Yes, I have seen occasions where people write outside their
24 expertise.

25 Q. Any time you write a document -- you are the top person in

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1 the research and development area or second to the top person?

2 A. I report to the Executive Vice President of Research.

3 Q. When you write a memo and suggest something, does it just
4 automatically become company policy?

5 A. No, it doesn't work that way.

6 Q. In fact, if anybody writes a memo, does it automatically
7 become company policy?

8 A. No, in fact, sometimes those memos are actually contrary to
9 company policy.

10 Q. Whenever people at R.J. Reynolds, in your experience and
11 also in the past, when people write down ideas or suggestions
12 or thoughts in a memo, does that mean that R.J. Reynolds has
13 actually taken that memo and researched that issue and done
14 something about it?

15 A. No, I think this is a very typical to run into every day.
16 There are good ideas, bad ideas. People write those ideas
17 down. Certainly, just because they wrote them down, doesn't
18 mean they are followed through on.

19 Q. Why does R.J. Reynolds address or deal with the smoking and
20 health issue in the work that you do in the design of
21 cigarettes?

22 A. I think there are two very big reasons. One, it's the
23 right thing to do. It's an obligation or responsibility we
24 have to our customers.

25 Secondly, I believe it's a very competitive area. If

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1 a manufacturer is able to produce a consumer acceptable
2 produce-risk product that there is a substantial competitive
3 advantage.

4 Q. So if a company was able to figure out exactly how to
5 invent a safe cigarette, for instance, would that give them

6 some advantage in the market place in your experience?
7 A. Well, I believe there is no such thing as a safe
8 cigarette.
9 Q. I was just asking you a hypothetical.
10 A. If you can design and manufacturer a consumer acceptable
11 reduced risk safer cigarette, yes, I think there's a huge
12 competitive advantage.
13 Q. Can you think of any reason not to try to do that?
14 A. No, I think it's the right thing to do. From a business
15 standpoint, I think it's the right thing to do.
16 Q. You mentioned products that are acceptable by consumers.
17 What does that mean? Why is that important?
18 A. I think consumer acceptance is very important to the
19 introduction and the development of any cigarette. If you
20 develop cigarettes that is reduced risk and people are
21 unwilling to smoke it, they don't accept it or buy it, then
22 really, you have done no one any good, the consumer or the
23 company.
24 Q. How many scientists work in the general area of Research
25 and Development at R.J. Reynolds?

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1 A. Currently around 350 at R&D.
2 Q. Over the time that you have been there, if you try to count
3 it up, how many scientists would you say R.J. Reynolds has
4 employed over the last seventeen years?
5 A. Over the last seventeen years I would say between 1,000,
6 2,000 people have probably come through.
7 Q. If you went all the way back to the 50s, how many would it
8 be --
9 MR. YAFFA: Excuse me. How would know that? He
10 didn't work there in the '50s.
11 THE COURT: Excuse me. If you have an objection you
12 address it to me.
13 MR. YAFFA: Object to form, Your Honor. Foundation.
14 Predicate.
15 THE COURT: Please ask a few more questions.
16 BY MR. REID:
17 Q. You told us you looked at lab books and other things. Do
18 you have an idea of what the head count might have been over
19 the years? Are you able to make an estimate?
20 A. I have got a general idea. I think it would be somewhere
21 between 3,000 and 4,000 or 5,000.
22 Q. That would generate a lot of paper, wouldn't it?
23 A. Yes, it could.
24 Q. Let's talk about dollars. Over the time you have been
25 there, how much has R.J. Reynolds would you estimate on

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1 Research and Development in a field that you are talking about?
2 A. Since I have been there, I think in the area of product
3 development, we probably spend somewhere in the area of \$1
4 billion.
5 Q. Now, the jury heard testimony that a cigarette is tobacco
6 rolled in paper. If you can sell tobacco rolled in paper, and
7 make a profit, why is it necessary to spend a billion or more
8 dollars on Research and Development?
9 A. I think that the general definition of a cigarette is
10 tobacco rolled in paper. That is what most people are familiar
11 with.
12 The fact of the matter is is that cigarettes are very
13 complex. The tobacco chemistry is very complex. There is a
14 lot of complexity that you are trying to study. That takes
15 resources and money.
16 In addition, spending a lot of money on reduced risk

17 product development. I think it's the right thing to do and it
18 requires a lot of sources to develop new technology.
19 Q. Let's change gears and talk about some of the building
20 blocks in some of the things that you have to deal with in
21 getting to your ultimate conclusions. The jury has heard this
22 before, but is smoke created when tobacco and paper burn? Is
23 that a complex substance?
24 A. Yes, tobacco and smoke chemistry are very complex.
25 Q. Could we see the exhibit please.

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1 We put a demonstrative that you have asked someone to
2 prepare. Tell the jury what they are looking at, and what it
3 means with regard to the complexity of smoke.
4 Actually, I should say, first of all, what is
5 mainstream smoke?
6 A. Mainstream smoke is the smoke that comes out of the mouth
7 end of the cigarette. When a smoking machine or smoker takes a
8 puff, it's the smoke that comes out of the mouth end of the
9 cigarette.
10 Q. What's the smoke that comes out of the other end?
11 A. Side-stream smoke or lit-end smoke.
12 Q. Tell us about the complexity of tobacco smoke.
13 A. I am going to try to use this pointer. I am going to start
14 right here in the middle, if we can focus on this middle
15 column. What I have done is to show a depiction of something
16 that was in a Surgeon General's report. This is based on 500
17 milligrams of whole smoke. Simply because if you take ten
18 puffs off a cigarette, that would generate 500 milligrams grams
19 of total smoke coming out of the mouth end of the filter.
20 If you look down here, there is about 62 percent of
21 that mainstream smoke is made up of nitrogen, a component of
22 air. 13 percent is made up of oxygen, also a component of air.
23 Almost 75 percent of the smoke coming from the mouth end of the
24 cigarette is made up of components of air. Also have carbon
25 monoxide, 14 percent. Methane and carbon dioxide at 2 percent.

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1 Hydrogen and oxygen at roughly 1 percent.
2 The other 18 percent up here, 4 and a half of that is
3 particulate phase and 14 and a half percent of that is vapor
4 phase. I am going to talk about those --
5 Q. Why don't you tell us -- what were you going to ask?
6 A. Can I have the whole slide.
7 Q. Tell us what particulate phase and videotape for phase is?
8 A. Let me back up. Cigarette smoke is actually an aerosol.
9 What that means is there are small particles actually
10 surrounded by a vapor phase. It's much like an early morning
11 fog where you have water particles surrounded by the air. The
12 air is the vapor phase. The particles are the droplets.
13 In cigarette smoke that particulate phase is called
14 wet total particulate matter. A lot of people refer to it as
15 the tar phase. The other phase is the vapor phase.
16 As I said, around four and a half percent of this
17 total 500 milligrams is the particulate phase. Around thirteen
18 and a half percent is the vapor phase.
19 If we focus first on the particulate phase, you see
20 that water is a major component of that to the tune of 18
21 percent. It is made up of a number of other compounds and
22 classes of compounds of which nicotine makes up around six
23 percent of that.
24 If you go to the vapor phase, it's 13 and a half
25 percent of the total. It is made up of water at a roughly ten

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1 percent, carbon dioxide at roughly 80 percent. Other

2 compounds, which you can explode out that ten percent into a
3 number of different compounds and classes of compounds such as
4 hydrocarbons, aldehydes, ketones. We will talk about some of
5 these other compounds as we go through today.
6 Q. This is in the 1989 Surgeon General's report which is a
7 federal publication?
8 A. Yes.
9 Q. The Surgeon General got it from somebody called Dubee?
10 A. Doctor Dubee and Doctor Green.
11 Q. Doctor Green. So they must have done all the work that
12 allowed this information to be compiled?
13 A. Yes, this was work from Doctor Dubee and Green.
14 Q. Who did Doctor Dubee and Doctor Green work for?
15 A. They were both employees of R.J. Reynolds Tobacco Company.
16 Q. Let's look at the next chart. I think it's a simpler
17 version of the same.
18 A. Yes.
19 Q. Tell the jury what this chart is.
20 A. This is now a pie chart. It is more simple people than the
21 bar chart I just showed. This is a pie chart of the
22 composition Camel 70 nonfilter mainstream smoke.
23 Q. Let me stop you there. Camel 70 means what?
24 A. Camel 70 is the Camel cigarette. 70 simply means that it's
25 a 70 millimeter long cigarette. Non filter.

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1 Q. That would be the original small Camel?
2 A. That's correct.
3 Q. Go ahead.
4 A. Like in the previous chart, one of the main things that is
5 obvious from here is that nitrogen and oxygen, both components
6 of the air, make up a great percentage of the total smoke. In
7 fact, around seventy-five percent.
8 Carbon dioxide, another major component around eleven
9 percent.
10 Water two percent.
11 Some other air components around one percent.
12 Finally, you get nicotine at roughly half a percent.
13 Tar six percent.
14 Some other gas phase components, one and a half
15 percent of other constituents like carbon monoxide at three and
16 a half percent.
17 Q. The jury has heard about a number of constituents the BAP,
18 nitrosamines. Some of those things have been connected with
19 cancer in animals. Where do they fall in that chart?
20 A. If you were to look at benzopyrene, BAP, and
21 tobacco-specific nitrosamines they are small components of the
22 tar phase.
23 Then some of the others like aldehydes are actually
24 part of the other gas phase components.
25 Q. When you say these things are small parts, how are they

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1 measured?
2 A. Benzopyrene is measured in nanograms per cigarette.
3 Q. A nanogram is what?
4 A. A nanogram is one billionth of a gram. To give you a
5 little more context, a gram is like the weight inside of a
6 small Sweet and Low package. That would be a full gram. A
7 nanogram is one billionth of that.
8 Q. What level do you find benzopyrene in?
9 A. Benzopyrene in most of today's cigarettes ranges from ten
10 to fifteen percent nanograms per cigarette, depending on the
11 tar level of the cigarette.
12 Q. Now, once you identified the various -- this is important

13 to know, I assume, in cigarette design, what's in the smoke?
14 A. Absolutely. That is one of the major things we try to
15 understand.
16 Q. Have people always known what was in tobacco smoke?
17 A. No. It took many years of study to know what was in them.
18 Tobacco smoke very, very complexed.
19 Q. You prepared a demonstrative chart here to talk about the
20 discovery of what is in tobacco smoke?
21 A. Yes.
22 Q. Tell the jury what was discovered, when and how.
23 A. Okay. What I have shown here is the number of known
24 compounds or constituents in smoke as a function of time. The
25 number of compounds versus the years that are depicted in the

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1 lower part of the chart. You can see around 1950, 1951 there
2 is only around 100. Actually 90 components actually known in
3 cigarette smoke. 90 compounds of what today is probably over
4 5,000 compounds.

5 As time moved on in technology, particularly
6 analytical chemistry technology progressed, the number of
7 constituents increased. Today we are somewhere under 5,000
8 chemical constituents known in cigarette smoke.

9 Q. Did your company have anything to do with developing the
10 technology that allowed science to find out what is in tobacco
11 smoke?

12 A. Yes, looking at the reports, I would say that roughly a
13 third to half of the constituents was identified by Reynolds.
14 We've also participated in the development particularly of
15 capillary gas chromatography.

16 Q. That is a technology used to identify?

17 A. Chromatography is the science of separating compounds, so
18 you've got this complex matrix.

19 In order to identify a compound, you have to separate
20 them out and identify them. Chromatography is the science of
21 separating those compounds for identification.

22 Q. Reynolds was involved in developing that technology?

23 A. Yes.

24 Q. In the beginning, when you were trying to identify some of
25 these things, was it difficult?

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1 A. Oh, it's very difficult.

2 Q. In the '50s, for instance, what difficulties existed in the
3 '50s, how did companies go about doing it?

4 A. Particularly in 1950, when there wasn't a whole lot known
5 about cigarette smoke, the analytical technology simply wasn't
6 there. The detection limits was the lowest level which you
7 could detect constituents. That technology was not refined
8 enough. There were cases to identify, for example.

9 Benzopyrene, we had to smoke over 13,000 cigarettes and collect
10 that tar on a smoking machine, and collect that tar and use
11 that for quantifying BAP in cigarette smoke.

12 Q. You said smoke. You mean put them in a smoking machine and
13 collect the tar?

14 A. That's right.

15 Q. Do you still have to do that with 13,000 cigarettes today
16 to check on benzopyrene?

17 A. No, as the technology has gotten better and better, we now
18 can do the same analysis much more reproducibly with ten to
19 fifteen cigarettes.

20 Q. Have folks in the public health community complimented R.J.
21 Reynolds for its contribution in this scientific area in the
22 '50's and '60s?

23 THE COURT: Sustained.

24 MR. REID: I want to show you an exhibit. AG49
25 BY MR. REID:

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1 Q. Tell the jury what they are looking at.
2 A. This is a journal article on the titrimetric analysis of
3 247 trinitro fluorine complexes.
4 THE COURT: I'm sorry. Can we get a spelling.
5 MR. REID: It's actually on the board.
6 THE COURT: Thank you.
7 THE WITNESS: This is an article that tells how
8 particular compounds are used to identify, in this particular
9 example, polycyclic aromatic hydrocarbons in smoke.
10 BY MR. REID:
11 Q. Who prepared the article?
12 A. This was an article by two scientists at R.J. Reynolds.
13 Q. What year did they prepare this article?
14 A. I believe it was prepared in 1964. No, 1958. I'm sorry.
15 Q. Where did it appear? In what publication?
16 A. This one, I believe, was published in Analytical Chemistry.
17 Q. Is that a peer review journal?
18 A. Yes.
19 Q. So this wasn't a secret internal document?
20 A. No.
21 Q. Did you say it was pronounced titrimetric?
22 A. Titrimetric.
23 Q. Can this be used in the identification of constituents of
24 smoke?
25 A. Yes, this was used for the determinations of polycyclic

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1 aromatic carbons.
2 Q. PAH sometimes it's called.
3 A. PAH, it's the class of compounds that benzopyrene is a part
4 of.
5 Q. This research would tell someone interested in the subject
6 how to look for PAH in cigarette smoke?
7 A. It would describe one analytical approach to that, yes.
8 Q. Do you think all the constituents have been identified now?
9 A. In cigarette smoke?
10 Q. Yes.
11 A. No, I think the complexity, and as we continue to refine
12 the technology of analytical chemistry we will continue to find
13 additional ones at lower levels.
14 Q. Can you give us an example of another product that folks
15 use that would be similarly complex to cigarette smoke?
16 A. I think there is a number of things that we use every day
17 that is very complex. Coffee, tea, plant extracts or natural
18 extracts that are used to flavor the food we eat. There are a
19 number of things very complex matrices.
20 Q. Does that mean the coffee itself?
21 A. Both the coffee bean and the coffee that we drink, both of
22 them are very complex.
23 Q. If somebody studied the coffee that you probably had this
24 morning, it would have thousands of chemicals in it?
25 A. Hundreds, yes.

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1 Q. Are you aware of any substance that has been as extensively
2 studied as cigarette smoke?
3 A. In reviewing the literature, the smoking and health
4 literature that has been published since 1950, I can't say that
5 I know of any material that has been studied like cigarette
6 smoke.
7 Q. Let's change topics a little bit. I want to talk about the
8 cigarette design research that goes on in R.J. Reynolds tobacco

9 company.
10 A. Okay.
11 Q. I guess the first is are all cigarettes the same?
12 A. I think in a general sense, and I alluded to earlier, in
13 the general term cigarettes are tobacco rolled in paper, most
14 with filters attached today. Only at that gross level are all
15 cigarettes the same.
16 All of them have different technologies, different
17 filtration efficiencies, different papers. In a gross sense,
18 yes, but from a complicated sort of way, no.
19 MR. REID: If I might, Your Honor, I need to get the
20 board.
21 THE COURT: Yes.
22 BY MR. REID:
23 Q. I might want to write a couple of things down as we talk
24 about cigarette design.
25 Cigarette design, are there prescribed steps that a

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1 designer goes through in working out what the design of the
2 cigarettes will be?
3 A. Yeah, there are specific steps I would take for designing
4 cigarettes.
5 Q. What is the first step?
6 A. To define the design objective that you want to accomplish.
7 Q. So we can call that --
8 A. Design objective.
9 Q. What does that mean?
10 A. That means like many of our projects that are housed, you
11 define what you want to accomplish when you do that.
12 In the area of cigarette design it may mean I want to
13 reduce tar, or I want to improve the puff count. A number of
14 just design objectives that you would have.
15 Q. What is the second step?
16 A. The second step is really one of the areas that I believe
17 the complexities all come in. That is technical performance.
18 Q. Okay. Let me write that down.
19 Technical performance.
20 Okay. What does that mean?
21 A. Well, in the case of cigarettes, once you have your design
22 objective, you have to study the different technologies that
23 you have available to you and invent new technologies, the
24 synergies between technologies, to see the best way how you put
25 those things together to accomplish what your design objective

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1 is.
2 Q. Do you ever have a situation where your design objectives
3 begin to conflict with each other?
4 A. I think on a number of occasions you can. Design
5 objections and the technical execution of them begin to
6 conflict.
7 Q. What do you do when that happens?
8 A. You begin to have to make trade offs between the design
9 objective and the technical performance.
10 Q. A big heavy SUV is very safe, but the gas costs a lot of
11 money to operate?
12 A. It gets very low gas mileage.
13 Q. Is that the kind of trade off that you are talking about?
14 A. That's the trade off. Do I want a lot of power, or do I
15 want gas efficiency.
16 Q. What is the third step?
17 A. The third step then is commercial practicality.
18 Q. What does that mean?
19 A. Commercial practicality is once you have got your design

20 objective and demonstrated in the lab that you can technically
21 accomplish that design objective, there are two major
22 components that you have to satisfy. That is one of consumer
23 acceptance that people will buy and like that product.
24 The second is manufacturability. Can I manufacturer
25 that product at the numbers that are needed for people to buy

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1 and use.
2 Q. What, as a designer, what areas, what factors influence
3 commercial acceptability?
4 A. Consumer acceptability?
5 Q. I mean consumer, yes, sir?
6 A. There are a number of things that I believe goes into
7 consumer acceptability. It can be the taste of the product,
8 the aroma of the product, the configuration of the product. Do
9 people want a long cigarette, a slim cigarette, a fat
10 cigarette, so configuration, taste, aroma, draw. There are a
11 lot of things that I believe go into whether people accept a
12 cigarette or not.
13 Q. We will obviously talk in more detail later, but can you
14 name any products that you are familiar with that failed
15 because of poor consumer acceptance?
16 A. Yes, I can name a few.
17 Q. Okay.
18 A. From R.J. Reynolds I know of two that failed because of
19 poor consumer acceptance. That was Premier, which was a
20 tobacco-heating cigarette. As well as Tempo, which was a
21 tobacco-burning cigarette, charcoal filtered.
22 Q. Now, when R.J. Reynolds created, invented a tobacco-heating
23 cigarette and when R.J. Reynolds developed a carbon cigarette,
24 was that done in response to suggestions in the public health
25 community?

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1 A. Yes, both of those cigarettes were intentionally designed
2 to address their reduction of risk.
3 Q. Over the fifty years or so that we are talking about, which
4 includes both your time as well as the time that you researched
5 at Reynolds, has there been a clear guiding set of principles
6 put out by the public health community, or scientists involved
7 in that, with regard to how you want to design and make those
8 cigarettes?
9 A. No, there has been a lot of guidance and advice. I
10 wouldn't say it's been clear and consistent.
11 Q. Have there been a lot of different suggestions over the
12 years?
13 A. Yes, there have.
14 Q. Have there been conflicting suggestions from folks within
15 the public health community?
16 A. Yes, I think in the area of nicotine, that is one area
17 where there is a clear conflict.
18 Q. Now, the jury has heard about nicotine yields. Has there
19 been different suggestions about the nicotine yields that are
20 appropriate to try to make cigarettes better?
21 A. Yes, there has been advice. Both up and down with respect
22 to nicotine.
23 Q. Some scientists in the public health community have said
24 you should do what with nicotine?
25 A. Some have said you should take nicotine yield down and some

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1 have said take it up.
2 Q. Who said take it down?
3 A. Two scientists, Doctor Enfield and Doctor Benowitz have
4 advised to reduce nicotine.

5 Q. The jury heard from Doctor Benowitz. I am not sure if you
6 knew that or not. Who recommended doing the opposite, raising
7 nicotine?
8 A. There have been a number of researchers including Doctor
9 Geo Gory from the National Cancer Institute. The Surgeon
10 General, Doctor Mik Russell from the United Kingdom there.
11 There has been a number.
12 Q. You are in the middle. Do you have decide which way to go?
13 A. Yes, we do.
14 Q. Is that easy?
15 A. No. When you have conflicting advice from the public
16 health community, it is not easy to decide.
17 Q. What would you say has been the principle affect on the
18 Reynolds' design effort of getting all of these conflicting
19 pieces of information?
20 A. I think the principle thing that I can speak to is that
21 when theories are proposed as to constituents needing to be
22 removed, or nicotine going up and down, we researched what the
23 merits series were, we took them very seriously and made sure
24 we tried to address them.
25 Q. Has Reynolds, over the last fifty years, attempted to carry

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1 out its research and development in such a way that they could
2 reduce the inherent risk involved in smoking?
3 A. I think over the last fifty years we worked very hard to
4 reduce the risk of smoking.
5 Q. Let's get 674. Tell the jury what that is.
6 A. This is a slide that simply speaks to the major efforts
7 undertaken at Reynolds, and from what I can see, a number of
8 our competitors, for making safer or reduced risk cigarettes.
9 There are five approaches that I've listed there
10 ranging from selective to general reduction, tobacco
11 substitutes, changing the tar of nicotine ratio and the
12 tobacco-heating technologies that I referred to earlier.
13 Q. Let me go back just a second. From your review of what
14 happened at Reynolds, when the epidemiology studies came out in
15 the '50s, when the mouse skin painting studies came out, did
16 that have an affect on the market for cigarettes?
17 A. I think it had a big effect on both the market as well as
18 the efforts taken in cigarette design.
19 I think in the area of the market place, as the
20 epidemiology came out and the mouse skin painting came out,
21 consumers begun to demand lower and lower tar products.
22 With respect to Reynolds, what it really did to us was
23 to make sure that we had research programs to fully understand
24 the complexity of smoke, began to measure biological activity
25 and to work with officials to try reduce the risks of smoking.

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1 Q. I am going to put some things here so we can remember where
2 we are.
3 Let's start now with looking at these efforts that
4 Reynolds undertook to make safer cigarettes. Let's start with
5 selective reduction.
6 Tell the jury what you mean by selective reduction.
7 A. Selective reduction is a reduction process sort of
8 procedure where you try to go in and selectively remove a
9 particular constituent or compound or class of compounds from
10 the complex mixture of smoke.
11 One of the good analogies that I've heard as to what
12 that looks like is if you think of these little claw machines
13 where you go in and try to grab the Teddy bear for a quarter,
14 it's sort of like that. You try to grab one of the compounds.
15 Q. What is the rationale behind that approach?

16 A. The rationale behind that approach is that there are a
17 number of constituents in cigarette smoke that have been
18 purported to be responsible for the smoking and health issue.
19 If you can go in and selectively reduce those compounds, it
20 would be a reasonable approach to risk reduction.

21 Q. How do you decide which of the 5,000 constituents in
22 cigarette smoke needs to be removed?

23 A. There are a number of ways that that actually occurs.
24 There is certainly advice from the public health community.
25 There is certainly literature and publications that can be

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1 researched. Our own scientists come up with what they believe
2 are constituents that should be reduced.

3 Q. Obviously, the first thing you have to do, somebody says
4 let's look at this particular constituent. Then you have to
5 identify it.

6 A. The first thing you have to do is make sure that you
7 identify it in cigarette smoke. Is it, in fact, in cigarette
8 smoke.

9 Q. Are there a number of ways that R.J. Reynolds tried to
10 engage in selective reduction over the years?

11 A. Yes.

12 Q. Let's have the next one of these.

13 Tell the jury -- you had all of these prepared to
14 assist in your testimony here today, correct?

15 A. Yes.

16 Q. Tell the jury what selective reduction techniques were
17 described in that graphic?

18 A. I would like to start at the top line. If you want to
19 select or remove constituents from cigarette smoke, then there
20 is really two basic approaches you can take. You can either
21 prevent the formation of those constituents in the tobacco or
22 in the combustion of the tobacco column, or you can selectively
23 remove them after they have been formed and as they travel down
24 through the filter to the mouth end.

25 There are two basic over all approaches, prevent

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1 formation or selective removal.

2 Q. Tell the jury specifically what those ways that you do each
3 of those.

4 A. Okay. In this particular area in the prevent formation,
5 there are ways that you can do that. One is that if it's a
6 chemical mechanism that is forming that particular constituent
7 of concern, then you can try to interfere with that chemical
8 mechanism. There are ways that have been tried, namely through
9 addition of tobacco additives, or through using different
10 cigarette papers to try to interfere with the chemical
11 mechanism to change the combustion temperature of the tobacco
12 column.

13 Also, you can try to remove the precursors to those
14 constituents. Precursors are compounds that are present in the
15 tobacco that, upon burning, parolysis or combustion are
16 converted into those constituents that you are trying to
17 reduce. One of the major ways you try to do that is through
18 extraction work, try to remove those from tobacco.

19 Q. How about on the other end?

20 A. With respect to selective removal, you are really working
21 primarily in the filter segment now. The constituents are
22 already formed in the tobacco column. You are trying to remove
23 them in the filter element after they have been formed.

24 You can do that by trying different filter additives
25 that have affinities for those constituents, or different types

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1 of filtration materials that may have some affinity for that
2 constituent you are trying to remove.
3 Q. Okay. I want to talk about some of the specific
4 constituents that your company dealt with over the years as
5 suggested by different people.
6 The first one we already talked about. BAP,
7 benzopyrene. Tell the jury what that is.
8 A. Benzopyrene is a five member ring -- it is five sets of
9 aromatic carbon rings. It is a compound that has five aromatic
10 rings to it.
11 Q. When did scientists first begin to think that BAP may be a
12 problem that needs to be studied?
13 A. That occurred in the early '50s when the epidemiology and
14 the mouse skin painting began to come together.
15 Q. Have you ever seen, or do you happen to know any references
16 to BAP in other than scientific journals?
17 A. I'm sorry?
18 Q. Articles or magazines, was BAP discussed in popular press?
19 A. Yes, BAP has been discussed in popular press in and around
20 that same time.
21 Q. In the 50s?
22 A. In the 1950s.
23 Q. Does cigarette smoke -- I guess I should have asked you
24 this in the beginning. Does cigarette smoke contain BAP?
25 A. Yes, it does.

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1 Q. What else contains BAP that we might eat, use, be around in
2 normal life?
3 A. Some of the things that were around or we eat were grilled
4 meats generally will have benzopyrene from the combustion of
5 the meat you eat. Raw vegetables also. Also camp fires,
6 burning oak leaves, a number of things that you may be around.
7 Q. Why is BAP in smoke?
8 A. BAP is a constituent that arises from the process of
9 combustion. So it's a natural constituent of combustion.
10 Q. When you burn something.
11 A. Yes.
12 Q. Does Reynolds add BAP to its tobacco?
13 A. Absolutely not.
14 Q. Has Reynolds tried to remove or reduce the BAP or apply
15 selective reduction technique to BAP?
16 A. Yes, Reynolds worked very hard from the '50s through the
17 '60s and continue today.
18 Q. The jury heard about Doctor Wynder. He is the fellow that
19 painted the mice?
20 A. Yes, one of them.
21 Q. Did he have anything to do with the study of BAP?
22 A. Yes, Doctor Wynder was involved quite a bit in the early
23 days in the study of BAP and made recommendations on reductions
24 with respect to BAP.
25 Q. Did Reynolds investigate, try to do something about BAP?

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1 A. Yes. I think the approach that we took was the approach
2 that we take with most of these theories that we try to
3 research. That is, first of all, to identify that constituent
4 in smoke. Quantify its levels, and seek ways to reduce it.
5 Q. I am looking at the prevent formation side. Did you try
6 additives?
7 A. Yes, quite a few.
8 Q. Did it work?
9 A. No.
10 Q. Why not?
11 A. There is possibly a number of reasons. We did not see any

12 selective reduction of BAP with the majority of the
13 constituents or additives.
14 Then also, some of the additives actually created
15 problems in and of themselves.
16 Q. Did Doctor Wynder suggest additives that you might try to
17 use?
18 A. Yes.
19 Q. What did he suggest?
20 A. He suggested magnesium nitrates.
21 Q. Did you try that?
22 A. Yes, we did.
23 Q. What happened?
24 A. What happened, in fact, that Doctor Wynder also agreed that
25 you began to form oxide of nitrogen. There were concerns that

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1 oxides of oxygen can form nitrosamines.
2 Q. Nitrosamines are something that you just assume not have?
3 A. Nitrosamines are never one of those constituents in
4 cigarette smoke that have been identified as carcinogenic.
5 Q. That's a case where by adding something to get rid of one
6 problem, you created another problem?
7 A. Yes. That's the problem that I alluded to earlier.
8 Q. There's also reference up there to the filter additives.
9 Did you attack BAP at the filter end of cigarette?
10 A. Yes, we also looked at different ways to put different
11 filter additives in for selective reduction and looked at
12 different filter materials. We did find some success. It
13 wasn't with selective removal. It was with general reduction
14 of tar.
15 Q. Did you look at different kinds of paper?
16 A. Yes, different cigarette papers. The idea was to change
17 the combustion temperature through modifying the air flow to
18 the fire column. There was a number of those tried. They did
19 not work as well.
20 Q. You also talked about extraction. Tobacco extraction. Did
21 you try that?
22 A. Yes, this was in an area where people believed that the
23 waxes that were inherent to the tobacco leaf that actually
24 protect the tobacco leaf and helped hold its moisture, those
25 waxes were some of the precursors to benzopyrene. It was

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1 believed if you could reduce those waxes from tobacco leaf,
2 that you could reduce benzopyrene in smoke.
3 Q. Did that work?
4 A. From a technical standpoint it had success. From a
5 commercial standpoint it did not. We built a plant that looked
6 at these extractions. The extraction was using very flammable
7 and explosive solvents. It had taste trade offs.
8 Q. What do you mean by that?
9 A. It left a bad taste in the cigarette.
10 Q. So people wouldn't buy it or smoke it?
11 A. People wouldn't buy it.
12 Once you stripped that protection layer away from the
13 cured tobacco leaf, that the tobacco leaf would not hold any
14 moisture, so that as you begin to process and try to make
15 cigarettes with it, it just breaks up into dust.
16 Q. Doctor Wynder and others thought BAP was the problem.
17 How long did R.J. Reynolds study BAP and do all the
18 things that you have been telling the jury about.
19 A. We did, probably in the time frame from the early to mid
20 '50s to the early to mid '60s, 120 experiments or more with
21 half a million cigarettes. We continue today to try to reduce
22 BAP?

23 Q. Did Doctor Wynder change his mind about BAP at some point?
24 A. Yeah, in the mid '50s Doctor Wynder began to question
25 whether there was sufficient benzopyrene in cigarette smoke.

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1 He called it the mouse skin painting results.
2 Doctor Hammond, from the American Cancer Society, he
3 concurred that result in the late '60s.
4 Q. After all of that work did the company move on to something
5 else?
6 A. Well, we certainly moved to another theory that was being
7 espoused. We didn't forget benzopyrene.
8 Q. Did you say --
9 A. We are still trying to reduce benzopyrene.
10 Q. What are phenols?
11 A. Phenols, that was the next area that was a theory that
12 people believed if you could reduce phenols, that would be a
13 step toward risk reduction.
14 Q. What are they?
15 A. Phenols are an aromatic ring with a hydroxy or LH group
16 hanging off of that ring, classic compounds.
17 MR. REID: May I step down, Your Honor, so he can draw
18 what he is talking about?
19 THE COURT: Yes.
20 BY MR. REID:
21 Q. Draw the benzopyrene and the phenol.
22 THE COURT: It looks vaguely like the lawyers that use
23 to sketch the jurors.
24 MR. REID: Sure.
25 THE COURT: I didn't mean to interrupt you.

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1 THE WITNESS: This is benzopyrene.
2 THE COURT: Doctor, Doctor, pardon me. Here is the
3 microphone right here in the corner that will help us all hear
4 you. Right on the corner of the desk.
5 If you would use that kindly, and repeat your answer
6 please.
7 THE WITNESS: This is benzopyrene. As I said, it is a
8 series of five aromatic rings. Where I have got these joined,
9 there is a carbon atom. This is just a shorthand. It's five
10 aromatic rings attached to each other.
11 BY MR. REID:
12 Q. What is phenol?
13 A. Phenol is also an aromatic ring. It has a hydroxy group
14 hanging off of it. That OH group is a hydroxy group. That
15 would be phenol.
16 Q. Okay. Let me show you Exhibit AN 220.
17 Tell the jury what that is.
18 A. This is an article that was published in tobacco science.
19 It is the composition of cigarette smoke 13. Eugenol and
20 Isoeugenol From Turkish Tobacco Smoke.
21 Q. Who are the authors of that?
22 A. This was published by Doctor Rodgeman and Doctor Cook, who
23 are researchers at R.J. Reynolds Tobacco Company.
24 Q. What year?
25 A. 1964.

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1 Q. Was this article about?
2 A. Eugenol and isoeugenol are phenols present in cigarette
3 smoke. They are part of that class of compounds that have the
4 hydroxy group on them.
5 Q. This was a substance that the public health community or
6 someone suggested should be studied for removal or reduction in
7 tobacco smoke?

8 A. Phenols were a class that people believed were promoters or
9 co-carcinogens.

10 Q. This was a public document?

11 A. Yes, it was. This was published in Tobacco Science.

12 Q. How did Reynolds try to reduce the phenols?

13 A. Once again, through the same process that we went through
14 with many of these, we identified the presence in smoke.

15 Quantified their levels. Sought ways to reduce it. The way
16 that we did that was tobacco additives, selective filtration,
17 some of the same approaches.

18 Q. Did you do anything with the filters?

19 A. Yes, we did.

20 Q. Tell the jury about that.

21 A. We found that phenols are susceptible to selected
22 filtration in the filter. Particularly agents that are very
23 good for doing that are salis acetate, which is the same
24 material that makes up the filter, and Triaciten which is a
25 plasticizer that is used on the filter.

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1 Q. When was that work done?

2 A. That work was done in the early to mid '60s.

3 Q. Does Reynolds continue to use any of that science or any of
4 that learning today in its cigarettes?

5 A. Even today we use salis acetate as the primary filter
6 material used in almost every cigarette in the United States
7 that has a filter. Triacetin is the plasticizer used on the
8 majority of cigarettes.

9 Q. What happened to the theory of phenols being harmful and
10 something that should be removed or reduced?

11 A. Sort of like benzopyrene, the momentum behind that
12 particular theory began to fall off. Like benzopyrene we are
13 never able to really forget about it.

14 Q. I realize I have been saying these in order. You did one
15 and you stopped, that's not how it happened?

16 A. No, that's not how it happened. A lot of this was
17 simultaneous parallel.

18 Q. Ciliastasis what does that mean?

19 A. Ciliastasis is a biological term that refers to the cilia
20 that line the cells of the respiratory track. The cilia are
21 hair like projections that line the cells. Their purpose is
22 sort of to beat in unison so they move materials out of the
23 lung. They are a primary clearance mechanism for the lung.

24 The process of ciliastasis would be to begin to
25 incapacitate that function.

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1 Q. By that you mean instead of them moving together, they are
2 not moving?

3 A. They either don't move or they do you want move together.
4 It's sort of damaging that cilia action.

5 Q. Was this a theory suggested by the public health community,
6 the scientific community?

7 A. Yes, it was.

8 Q. What did Reynolds do about that?

9 A. We identified a number of ciliastats present in cigarette
10 smoke. We then quantified their levels and sought a number of
11 ways to try to reduce them.

12 Q. It seems like we have been here a long time.

13 Some time before today, a doctor testified about
14 something called aldehyde, a-l-d-e-h-y-d-e, aldehyde, and
15 suggested that was not something that is particularly good?

16 A. Aldehydes are one of the constituents that people believe
17 to be ciliastatic.

18 Q. Meaning?

19 A. They have the ability to damage the cilia of cells.
20 Q. Do aldehydes only appear in cigarette smoke?
21 A. No, aldehydes are common in things such as sherry, such as
22 ripe fruits, fruit extracts, even the air we breath.
23 Q. If I grew tobacco in my back yard and then it got burned,
24 would it have BAP?
25 A. Yes, it would.

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1 Q. Would it have phenols?
2 A. Yes, it would.
3 Q. Would it have aldehydes?
4 A. Yes, it would.
5 Q. Why are aldehydes in smoke?
6 A. Aldehydes are in smoke primarily as a result of combustion
7 and pyrolysis of some of the biopolymer matrix, are the
8 cellulose, the hemicellulose, the sugar that is present in
9 tobacco naturally.
10 Q. You said a word that you haven't used before today.
11 Pyrolysis?
12 A. Pyrolysis.
13 Q. Tell the jury what that is.
14 A. Pyrolysis is a chemical change caused by heating. That is
15 simply what pyrolysis is.
16 Q. Have you discovered that Reynolds has published articles in
17 the public press about aldehydes over the years?
18 A. Yes, we have.
19 Q. Do you know generally what the subject matter of the
20 publication was, and when it took place?
21 A. Yes, in the mid 1960s, I believe it was 1964, we published
22 on the reduction of acid aldehyde and acrolein in commercial
23 cigarettes.
24 Q. When did you say?
25 A. I believe it was 1964.

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1 Q. What design technique was used to help in the aldehyde
2 issue?
3 A. In the ciliastatic issue, particularly in aldehydes, we
4 found that carbon filtration was very effective at reducing
5 selectively those constituents in cigarette smoke.
6 Q. By carbon filtration you mean what?
7 A. Basically it's small granules of carbon that are placed
8 into the filter of the cigarette. That's generally activated
9 carbon.
10 Q. Did Reynolds design and market a carbon filtered cigarette?
11 A. Yes, we did.
12 Q. What was that called?
13 A. Tempo.
14 Q. You mentioned that early?
15 A. Yes. In 1964.
16 Q. Was Reynolds the only company that marketed a carbon
17 filtered cigarette?
18 A. No. There were others as well.
19 Q. How did that do in the market place?
20 A. Initially when Tempo was put in the market place, there was
21 a lot of trial on the cigarettes. Due to poor consumer
22 acceptance, their trial and extended use began to fall off
23 considerably.
24 MR. REID: Could we have 690 please.
25 BY MR. REID:

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1 Q. What does 690 demonstrate?
2 A. This is the share of market of two cigarettes, Lark, which
3 is the green, Tempo which is the blue, as the function of time.

4 Lark was introduced in 1963 into the market place.
5 Tempo into 1964.
6 The red line shows their combined share of market,
7 total share of market. You can see it's roughly right at a
8 couple of percent. Two percent.
9 What I have done is I have just taken this line and
10 expanded that and blown that region of the scale up.
11 In 1963 there was initially quite a bit of trial to
12 present share of market in that time frame, and then a
13 substantial reduction in its use in the market place by
14 consumers.
15 Same with Tempo. It was introduced in 1964.
16 Substantial amount of trial. Its share of market fell off
17 substantially over time.
18 Q. Today are there any cigarettes that you are aware of that
19 are marketed with charcoal filters?
20 A. Yes, there are.
21 Q. Tell the jury what brand still exists.
22 A. I believe that Lark is still in the market place as well as
23 Tareyton and there may be one or two more.
24 Q. Is there any significant market share for those products?
25 A. No. It's very low market share.

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1 Q. What did you learn as a designer of cigarettes from your
2 experience -- I realize you weren't at R.J. Reynolds in '63?
3 A. Right.
4 Q. What did the designers learn that was carried forward at
5 Reynolds with regard to what happened with this particular type
6 cigarette?
7 A. I think there were a couple of sort of messages here. The
8 first is there was quite a bit of popular press talking about
9 aldehydes and ciliastats in smoke. When products were put on
10 the market place with carbon filters, a lot of people tried
11 them.
12 Over time, given their difference in taste, their
13 unusual taste, people did not accept those products and their
14 sales fell off. Consumer acceptance was very important.
15 Q. Was there another substance that Reynolds studied at the
16 suggestion of the public health community or scientific
17 community?
18 A. There has been a number. The tobacco specific nitrosamines
19 is an area that was heavily studied.
20 Q. Is that abbreviated sometimes?
21 A. TSNA.
22 Q. Tobacco specific nitrosamines.
23 A. Yes.
24 Q. What are they?
25 A. Tobacco specific nitrosamines are a class of compounds

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1 produced by nitrosating an amine. The ones that are specific
2 tobacco are called tobacco specific nitrosamines.
3 Q. Those two words you used, what does that nicotine?
4 A. Nitrosating and amine. It may be easier if I demonstrate
5 it.
6 Q. Okay.
7 A. May I?
8 THE COURT: Yes, of course. If you could spell amines
9 for us. If you can.
10 THE WITNESS: A-m-i-n-e-s.
11 THE COURT: Thank you.
12 THE WITNESS: If we look at one of the tobacco
13 specific nitrosamines, you start with the nicotine molecule,
14 and this is the basic structure of the nicotine molecule, and

15 then you nitrosate it. NO is nitrosation or the nitrate,
16 nitrosating agent. The amine is the function up here. The
17 nitrogen connected to two carbons.
18 Q. Are there other products that contains nitrosamines?
19 A. There are other products. Not tobacco specific
20 nitrosamines, but nitrosamines in general.
21 Q. Give us an example.
22 A. Cosmetics, rubber, the leather industry. There are a
23 number of things we are exposed to every day that contain low
24 levels of nitrosamines.
25 Q. I have asked you several questions about what other

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1 products contain some of these constituents. You have told us.
2 Do you mean to minimize the risk associated with smoking by
3 comparing it to some of these other products?
4 A. No, absolutely not. Just to point out that they exist in
5 other things that we encounter every day.
6 Q. Okay. Has Reynolds attempted to reduce the
7 tobacco-specific nitrosamines in its products?
8 A. Yes, we worked very hard on that for a number of years.
9 Q. Okay. Has Reynolds made any discoveries which have been an
10 advance in science with regards to these things?
11 A. Yes, I believe that we have.
12 Q. Tell the jury what discovery Reynolds made regarding TSNA.
13 A. Tobacco specific nitrosamines, we found that -- and in fact
14 we didn't find this original part -- they are not present in
15 green tobacco as that tobacco is out in the field. They are
16 just not present there.
17 Where you begin to find nitrosamines are as you take
18 the tobacco through the curing process or the drying out dry it
19 out used for the manufacturing of tobacco cigarettes. We spent
20 many, many years studying that curing process trying to figure
21 out why that particular process may be forming nitrosamines.
22 What we found out is that nitrosating agent, that
23 oxide of nitrogen that is at the bottom of that structure, was
24 actually counting from the combustion gases of the direct fire
25 furnaces used to cure the tobacco.

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1 So we proposed changing those direct fire burners over
2 to heat exchange burners so that you exclude those oxides and
3 nitrogens and eliminate that source of nitrosation so you no
4 longer have the nitrosamines.
5 Q. Tobacco is brought in and hung in barns?
6 A. That's the way it was done in the old days. Today it is
7 put into what are called buck barns. Those barns generally
8 have big boxes that are loaded with tobacco or racks that are
9 loaded with tobacco. A particular barn may have anywhere from
10 1,500 to 2,500 pounds of tobacco coming out of it at one time.
11 Q. What was the direct heat?
12 A. You actually have the burner that produces the heat for
13 curing the tobacco. The combustion gases directly from that
14 burner go into the barn and are disbursed under the floor and
15 come up through the tobacco to dry the tobacco out and cure it.
16 Q. What is the heat exchange?
17 A. A heat exchange method is one in which you have that fire.
18 Essentially, it is burning into a barrel type structure. The
19 combustion gases are then vented out of a chimney. You have a
20 fan that blows over a barrel and picks up the heat from the
21 barrel. That's the heat that you take into the barn to dry out
22 and cure the tobacco. It is free of combustion gas.
23 Q. Why did farmers switch from heat exchangers to direct heat?
24 A. I think the main reason that the heat exchange method of
25 curing was adopted is because it is the right thing to do when

1 you can find a way to practically produce nitrosamines.

2 Q. I meant the opposite. Why are they using the other way to
3 start with?

4 A. I'm sorry. I misunderstood your question.

5 Originally in the '60s, part of the energy crisis,
6 they were looking for the most efficient way to begin to cure
7 tobacco. Direct fire is a more efficient way to cure tobacco
8 or heat anything.

9 Q. So part of that was fuel efficiency?

10 A. Fuel efficiency, yes.

11 Q. After Reynolds discovered this, when is it actually done
12 out in the field about this?

13 A. Once we made that discovery, we then conducted a rather
14 large field trial where we converted direct fire burners to
15 heat exchangers in twenty-five commercial barns and conducted
16 tests to make sure that nitrosamines were low and that tobacco
17 was cured.

18 Then as soon as we confirm that, the next year we were
19 in the process of converting 1,200 curing barns to eventually
20 get to a point in which all of the tobacco that we were buying
21 in the United States was cured by heat exchangers.

22 Q. Was Reynolds the first to discover this situation, this new
23 technology?

24 A. Well, heat exchangers had been used, in fact, some were
25 being used even at that time. Not on a large scale. I think

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1 Reynolds was the first to make the discovery of a mechanisms of
2 the tobacco-specific nitrosamine formation and proposed the
3 heat exchangers as a solution.

4 Q. Once you finish with this conversion, what will be the
5 result as far as the Reynolds products?

6 A. The Reynolds products, after we have gone through this
7 conversion, the tobacco that we in the United States will
8 exhibit a 90 to 95 percent reduction in tobacco-specific
9 nitrosamines.

10 Given the level we use in the majority of our products
11 we will have nitrosamine reductions in the order of forty to
12 fifty percent.

13 Q. So this is a significant health related discovery that.
14 Reynolds made?

15 A. This is a classic compound that the public health community
16 has a lot of attention around, and we have seriously addressed
17 this.

18 Q. Once Reynolds made the discovery, did you patent it so you
19 can keep it to yourself and only Reynolds would get the benefit
20 of this?

21 A. No, we actually went out and talked to growers to show them
22 the science, why it was important to do the heat exchange
23 conversion. We talked to the leaf suppliers. The people who
24 you buy the tobacco leaf from. We talked to our competitors.
25 We talk to academic. We talked to basically anybody that would

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1 listen.

2 Q. Are other companies now following the Reynolds lead in
3 carrying out the same?

4 A. It's my understanding that the entire industry is going
5 toward heat exchange cured tobacco.

6 Q. We talked about four examples. I will assume there were
7 others that Reynolds looked into over the years and its
8 research?

9 A. Yes, this is just four examples. We have looked at many.

10 Q. Can you give us an idea of whether this selective reduction

11 is easy or hard to do.

12 A. I think selective reduction is very difficult. It has a
13 number of technical difficulties to it. It also has a number
14 of difficulties in so much as the advice on which constituents
15 are important to be removed. It may have started with
16 benzopyrene and phenols and ciliastats. It's kind of an
17 expanding target.

18 Q. Let's put the 691 up here.

19 Does this summarize the problems that exist or the
20 difficulties technically in the selective reduction approach,
21 the first approach on the board?

22 A. Yes, these are some problems that I would certainly
23 associate with selective reduction. It is technically very
24 difficult to do. You have got a complex matrix, tobacco smoke,
25 with 5,000 constituents or so. Once you identify the

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1 constituents and try to implement that, you have got
2 manufacturing issues. It's a very difficult thing to do.

3 Also, I alluded to this a minute ago, you have got
4 this expanded target experience. The public health community
5 continues to give advice on which constituents they believe are
6 important. The advice changes over time. It is kind of a
7 moving target. At least within Reynolds we don't forget the
8 targets they originally thought were important. I usually
9 refer to it more as an expanding target rather than a moving
10 target.

11 It also has the ability to introduce strangers or
12 unintended consequences to the smoke. What I mean by that is
13 in some of the work particularly with using additives to try to
14 selectively reduce benzopyrene, you may actually begin to
15 transfer some of those additives into the smoke that simply
16 weren't there before.

17 Now you have introduced a new constituent to smoke.

18 Also you may have unintended consequences such as when
19 we added nitrate to tobacco, you begin to form more oxides of
20 nitrogens in the smoke and the possibility for nitrosamine
21 formation.

22 The last area, obviously, is taste. As you begin to
23 reduce constituents from this complex mixture, you are going to
24 change the taste of that mixture. The taste of the cigarette
25 is one of the areas that is very difficult to maintain under

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1 control.

2 Q. In your experience and looking back over the company's
3 experience, has there ever been a consensus as to what ought to
4 be removed using selective reduction?

5 A. No. As I said, there have been a number of different piece
6 of advice.

7 Q. Let's talk about general reduction briefly. Tell us what
8 is general reduction.

9 A. General reduction, unlike selective reduction where you are
10 trying to go in and pick out one or two different compounds,
11 general reduction is where you actually use reduction processes
12 which sort of reduce everything all at one time. All of the
13 constituents in smoke are falling pretty much as you use
14 general reduction techniques.

15 Q. What is the theory or the rationale of doing that?

16 A. Less ought to be better.

17 Q. Reynolds has been doing that?

18 A. Yes, we have.

19 Q. Have the other companies that you are aware of in the
20 tobacco industry been doing that?

21 A. Certainly the technology in the market placed today says

22 they have.
23 Q. Was Reynolds encouraged by the scientific and public health
24 communities to do that?
25 A. Yes, we were.

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1 Q. Back to Doctor Wynder.
2 Did Reynolds operate under any suggestion by Doctor
3 Wynder regarding general reduction?
4 A. Yes, Doctor Wynder gave advice in, I believe 1957, that he
5 believed that a forty percent reduction in tar would make a
6 significant difference in the risk of lung cancer.
7 Q. Has Reynolds achieved a forty percent reduction, or has the
8 industry in general, achieved a forty percent reduction since
9 the '50s?
10 A. Yes, today, we are probably as low as seventy percent of a
11 sales weighted average. We offer products that span the range
12 from ninety-five sort of reduction in some of those products.
13 Q. Can we have 692 please. Sir.
14 Okay. Now, these are "entitled general reduction
15 techniques." Can you go through those briefly. You don't have
16 to spend be a lot of time on any one. Let's talk about each of
17 those.
18 A. I will go through them quickly.
19 These are the techniques for general reduction. The
20 first, and I think a very obvious one, is filtration. That is
21 the addition of a filter to the tobacco column of a cigarette.
22 That works by simply removing tar.
23 MR. REID: Let me interrupt you.
24 Your Honor, I didn't realize it was so late, 5:00.
25 This would be a good place to break before we start into the

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1 new topic. We can't finish today on direct and cross.
2 THE COURT: All right, if there is no objection, then
3 we will recess, ladies and gentlemen, asking you to remember,
4 of course, the instruction not to discuss the case with anyone
5 during the night recess or permit anyone to talk to you about
6 the case.
7 If there should be anything in television, radios or
8 newspaper, please don't read it, watch it or listen to it.
9 Tomorrow morning we are going to ask you to come at
10 9:30. The lawyers will meet me here at 8:30. Then we will be
11 with you and we will certainly be prompt. We will start
12 promptly at 9:30 with the continuation of Doctor Gentry. Thank
13 you for your patience. We will see you tomorrow morning at
14 9:30. Thank you.
15 [The jury leaves the courtroom].
16 THE COURT: All right. Unless there is something
17 else, we will meet the lawyers here tomorrow morning at 8:30.
18 Doctor Gentry, again, you have to use common sense
19 about this. Obviously, you can't just walk around tonight in a
20 vacuum, you can talk to people. Please do not let anybody talk
21 to you about your testimony or you talk to them. It's a very
22 human thing to walk up to somebody and say how am I doing, am I
23 doing okay or something like that. Please don't do that. It
24 creates problems for me tomorrow if you do, and we don't want
25 to do that.

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1 Tomorrow morning then.
2 MR. YAFFA: I just wanted to get a formal announcement
3 as to who is coming. I am getting all kinds of mixed signals
4 as to who the witnesses are tomorrow.
5 THE COURT: Let me inquire who do you anticipate to be
6 your next witness?

7 MR. REILLY: Your Honor, we are running a little
8 longer than I thought. I have a scheduling problem that I have
9 on Friday. I have to put some doctors on Friday. That is kind
10 of driving the train. I have to put some doctors on Friday.
11 Tomorrow we will find out how long we have. It will be,
12 obviously, Doctor Gentry then either Doctor Katzman or Doctor
13 McAllister. It depends on how long we have. I know I need to
14 put Doctor Katzman on. He is here from Switzerland, where he
15 lives. I have got doctors to put on Friday. I don't know what
16 mixed signals we have sent. We have informed plaintiffs
17 counsel of all the possibilities.

18 THE COURT: Could we plan on using Doctor Katzman
19 tomorrow if he is here from Switzerland, and taking him next so
20 that when he is finished he could leave, and then take the
21 other doctors on Friday.

22 It's not usual for me to run on a Saturday if you need
23 to. I prefer not to if we can avoid it, but if you need to.
24 Whatever you need to do. What I really want to achieve is a
25 smooth flow of testimony before the jury, as we have had this

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1 afternoon with Doctor Gentry. That is to say, I just don't
2 want to bounce them in and out. We achieved that in the
3 plaintiff's case. I would like to do the same thing on the
4 defense case.

5 MR. REILLY: Yes, Your Honor. Doctor Katzman will be
6 here tomorrow ready to go as soon as we are through with Doctor
7 Gentry.

8 THE COURT: You understand what I am saying. I don't
9 mean waiting a few minutes. I am talking about bouncing them
10 in and out with legal argument.

11 MR. REID: Did you remember to tell the juror that the
12 case was going to be over by March 8?

13 THE COURT: March 6.

14 MR. REID: Did you remember?

15 THE COURT: I am sure I asked Ms. Kramerman or the
16 marshal to tell the juror to because one of them had to buy an
17 airplane ticket to go to her son's graduation, and they needed
18 to know that yesterday or today. I am sure I told the marshal
19 that.

20 So long as we are on that and discussing the
21 organization of the witnesses and so on, can you give me some
22 sort of rough idea, because I have devoted pretty much two
23 months of this case. Judge O'Sullivan has been absolutely
24 marvelous. Robin, you can go off the record.

25 MR. REID: I think we are through next week for sure

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1 the whole case.

2 THE COURT: I am sorry?

3 MR. REID: During next week I think we are finished.
4 The whole case.

5 THE COURT: So you are anticipating that possibly you
6 will be through Friday or Monday or Tuesday with the defense
7 case?

8 MR. REILLY: Just guessing.

9 THE COURT: You are not held to it.

10 MR. REILLY: I think we will probably end the defense
11 case, we say, Tuesday or perhaps Wednesday. We are just moving
12 a little slower than I thought. I would say Tuesday or
13 Wednesday, especially if we were able to complete the two
14 company witnesses tomorrow and complete the week that way. I
15 am pretty dog-gone sure I will be ending up no later than
16 midweek next week.

17 THE COURT: Very good. Of course, depending on what

18 is brought out, you have an estimate of how long you think you
19 need. We have that -- since you all persuaded me against my
20 better judgment to bifurcate everything, we may or may not have
21 other aspects of the trial that we have to deal with depending
22 on whatever the jury does.

23 I know you all were waiting until last Friday. I know
24 you have some tentative instructions. Have we got both sides?

25 MR. COHEN: We have them, Your Honor. Ben and I said

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1 we would hand them in tomorrow morning.

2 THE COURT: That's fine. Thank you.

3

4 C E R T I F I C A T E

5 I hereby certify that the foregoing is an accurate
6 transcription of proceedings in the above-entitled matter.

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DATE

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